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ABSTRACT

The mandate of the Manitoba Teacher Supply and Demand Task Force was to investigate the magnitude of a possible teacher shortage in the province, examine possible strategies to deal with it, and recommend an action plan. The final report of the task force is presented here. Following an executive summary, the report is organized into eight sections: (1) Introduction; (2) Literature Review; (3) Methodology; (4) The Education Environment in Manitoba (Demographic Trends); (5) Provincial Teacher Projections; (6) Regional Teacher Projections; (7) School Superintendents' Survey; and (8) Discussion, Conclusions and Recommendations. Thirteen appendices are included: (1) List of Canadian Teacher Supply and Demand Studies; (2) Teacher Supply and Demand Definitions; (3) Manitoba Regions-Maps of School Division Boundaries; (4) Enrollment Forecasting at Manitoba Education and Training; (5) Manitoba Public School Enrollments, Historical and Projected; (6) Projected Teacher Withdrawal by Analyzing Retirement Trends; (7) Public School Enrollment Projections by Region; (8) Projected Teacher Demand (FTE) by Region; (9) Projected Teacher Acquisitions (FTE) by Region; (10) Superintendents Introductory Letter; (11) Superintendents' Survey; (11) Superintendents' Survey Results; and (12) Superintendents' Comments. The investigation led committee members to conclude that there will be a strong demand for teachers in Manitoba during the 1990s. Eleven recommendations are listed. (LL)

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Teacher Supply and Demand

For the Public Schools of Manitoba

(1989 - 2000)

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Teacher Supply and Demand

For the Public Schools of Manitoba

(1989 - 2000)

A Report Prepared by

The Manitoba Teacher Supply and Demand Task Force

July 1991

Pour un exemplaire français du présent rapport adressez-vous à la Direction de la planification, de la recherche et de la coordination des politiques, 1200, avenue Portage, bureau 221, Winnipeg, R3G OT5,

ISBN
0-7711-1037-5

BRANDON UNIVERSITY
BRANDON, MANITOBA, CANADA
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Office of the Dean
Faculty of Education

The Honourable Len Derkach
Minister of Education,
Legislative Building,
Winnipeg, Manitoba,
R3C 0V8

July 16, 1991

Dear Mr. Derkach:

I have the honour to submit to you the final report of the Task Force on Teacher Supply and Demand, entitled "Teacher Supply and Demand for the Public Schools of Manitoba (1989-2000)".

Task Force members have worked assiduously and thoughtfully on this report, and we believe that we have done a reasonable examination of the supply and demand of teachers in Manitoba for the next decade.

The report proper is preceded by an Executive Summary, which includes 11 recommendations.

I will be happy to meet with you and members of the Department of Education to discuss the report, as will members of the Task Force.

Thank you for this opportunity to serve the citizens of Manitoba.

Yours very truly,

Robin J. Enns, Ph.D.,
Task Force Chair,
Dean, Faculty of Education.

xc. Ms. Betty Husby, Manitoba Teachers Society
Mr. Alex Krawec, Manitoba Education and Training
Dr. Roger Légal, Collège universitaire de Saint-Boniface
Dr. Annabelle Mays, University of Winnipeg
Mr. Jim McKay, Red River Community College
Dr. Jerry MacNeil, Manitoba Association of School Trustees
Mr. Srini Reddy, Manitoba Association of School Superintendents
Dr. John Stapleton, University of Manitoba

Executive Summary

In January 1990, the Minister of Education and Training established a Manitoba Teacher Supply and Demand Task Force. The mandate of the task force was to investigate the magnitude of a possible teacher shortage, examine possible strategies to deal with it, and recommend an action plan to the Minister. Members appointed to the task force included representatives from the provincial teacher education institutions, teachers, superintendents, trustees, and Manitoba Education and Training.

In carrying out its mandate, the task force committee conducted the following activities:

- a review of the relevant literature
- an historical analysis of student enrolments and pupil-teacher ratios in Manitoba
- an investigation of teacher supply and demand modelling procedures and formulas
- a calculation of ten-year projections of provincial teacher demand, teacher acquisitions, and required beginning teachers
- a calculation of five-year projections of regional teacher demand and teacher acquisitions
- a survey of Manitoba school superintendents regarding teacher supply and demand projections for their divisions.

The task force investigation led committee members to conclude that there will be a continuing strong demand for teachers within the province over the next decade. In 1989-90, 1,063 teacher acquisitions were required and of these 47% were beginning teachers who were newly certified in the previous year. Based upon a projected slow declining student enrolment throughout the decade, a constant pupil-teacher ratio of 15.19, and an annual teacher withdrawal rate of 8%, it was concluded that slightly in excess of 1,000 teacher acquisitions would be required for each year until 1999-2000.

On a regional basis, the annual demand for teachers was projected to remain the highest within Greater Winnipeg. Northern Manitoba was projected to continue to have the greatest difficulty in acquiring and retaining teachers, even though requiring the fewest in number. The task force concluded that northern Manitoba would experience an annual teacher withdrawal rate which is much higher than both Greater Winnipeg and rural Manitoba.

The subject/program areas projected by school superintendents as having the greatest demand for teachers were resource teaching, Core French, French Immersion, music, and special needs.

As a result of its deliberations, the Task Force submits the following recommendations:

1. ***That the level of provincial funding to universities be increased on an annual basis to maintain current enrolment levels within Bachelor of Education degree programs.***

2. ***That Manitoba Education and Training produce annual projections of provincial teacher demand.***

3. ***That Manitoba Education and Training review the mandate, specifications, and contents of the existing teacher (Professional School Personnel) data base.***

4. ***That Manitoba Education and Training, in consultation with Manitoba Teachers' Society, Manitoba Association of School Superintendents, and Manitoba Association of School Trustees, conduct a study of the relationship between the changing classroom environment and teacher supply and demand.***

5. ***That Manitoba Education and Training provide rural and northern school boards with additional funding to attract and retain certified teachers.***

6. ***That Manitoba Education and Training, in partnership with universities, ensure that teacher education programs provide students with experiences specifically related to rural and northern environments and that adequate funding be provided for this.***

7. ***That school boards provide the necessary professional development for teachers to facilitate re-deployment to subject/program areas in which vacancies occur, and that incentive grants be provided to ensure teachers are retrained as required.***

8. ***That Manitoba Education and Training, in collaboration with the universities, encourage teachers to specialize in resource, counselling, and special needs programs and that special opportunity bursaries be provided to teachers who choose to train in these specialty areas.***

9. ***That the government-sponsored Access programs related to teacher education receive increased provincial funding.***

10. ***That Manitoba Education and Training, in partnership with the universities, work to increase the participation of aboriginal and visible minority people within teacher education programs.***

11. ***That Manitoba Education and Training establish and capitalize an Educational Research Council which would provide funds for research on educational issues deemed to be of the public's interest.***

Preface

In recent years, representatives from Manitoba Teachers' Society, Manitoba Association of School Superintendents, and Manitoba Association of School Trustees have raised concerns about current and future teacher supply and demand. In January 1989, the Canadian Teachers' Federation investigated the issue and released the report ***Projection of Elementary and Secondary Enrolment and the Teaching Force in Canada, 1987-88 to 2006-07.*** The report projected that Manitoba would experience an increased demand for secondary teachers throughout the decade, and an increased demand for elementary teachers until 1996-97, followed by a decline.

In January, 1990, Education and Training Minister Len Derkach established a Manitoba Teacher Supply and Demand Task Force. Its mandate was to investigate the magnitude of a possible teacher shortage, examine possible strategies to deal with it, and recommend an action plan to the Minister of Education and Training.

Dr. Robin Enns, Dean of Brandon University's Faculty of Education, was asked to chair the task force committee. Serving on the committee were the following representatives from Manitoba's educational community:

Dr. Robin Enns	Brandon University
Ms. Betty Husby	Manitoba Teachers' Society (MTS)
Mr. Alex Krawec	Manitoba Education and Training
Dr. Roger Legal	Collège universitaire de Saint-Boniface
Dr. Annabelle Mays	University of Winnipeg
Dr. Jerry MacNeil	Manitoba Association of School Trustees (MAST)
Mr. Jim McKay	Red River Community College
Mr. Strini Reddy	Manitoba Association of School Superintendents (MASS)
Dr. John Stapleton	University of Manitoba

Technical support was provided by the Planning, Research and Policy Coordination Branch, Manitoba Education and Training.

The task force committee held regular meetings through 1990 to July 1991. All decisions regarding the focus, scope, and procedures of the study, as well as the recommendations and structure of the report, were made by consensus.

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1. INTRODUCTION

1.1 Background

Manitoba's changing demographics have created an interest in the adequacy of the province's supply of teachers. Due to an "aging teaching force", a concern has emerged regarding the effects of future teacher retirements on the supply of teachers. At the same time, the current economic recession has caused many Manitoba school boards to re-evaluate their program offerings and need for teachers, resulting in a reduction of teacher positions.

In Manitoba, as in other provinces, demographic and social patterns are changing at a rapid pace. Specific to the provision of education are:

- declining rural population
  - decreasing student enrolments
  - increasing difficulties in attracting and retaining teachers
- financial constraints
  - to university education programs, leading to restricted enrolments and fewer graduates
  - to school divisions/districts, causing re-evaluation of priorities and program delivery mechanisms
- public demand for the continuation of, and increase in, program offerings
  - a diversified and expectant public continues to operate according to the "add on" philosophy for meeting new and changing education needs
- changing labour force practices
  - greater numbers of people are entering and changing careers as "adults." This results in experienced teachers leaving the profession early (creating vacancies), and other adults wanting to enter the profession (altering the background and experience of the traditional 18-24 age group of college students).

Over the past ten years, student enrolments within Manitoba's schools have gradually decreased, while the number of teachers has gradually increased. How these trends will change or continue is uncertain.

It is within this complex environment, that the following study was conducted.

1.2 Terms of Reference

The task force committee decided that the following criteria would structure the work of the study:

- the scope would include analysis of Manitoba's public school system
- a synthesis of the literature on teacher supply and demand would be conducted with particular attention given to recent Canadian studies
- a statistical model would be utilized to project teacher demand for each of the next 10 years
- a qualitative examination of teacher supply and demand in Manitoba would be conducted by surveying provincial superintendents.

Based upon discussion, the primary research questions of this study became:

- Quantitative:
  - What will be the **demand** for teachers in Manitoba in each year of the next decade?
  - What will be the number of required teacher **acquisitions** in each year of the next decade?
  - What will be the number of **beginning teachers** required in each year of the next decade?
- Qualitative:
  - What are the key factors influencing teacher supply and demand in Manitoba?
  - What are the current issues facing school administrators with respect to teacher supply and demand?

2. LITERATURE REVIEW

In order to develop a comprehensive conceptual framework for the study "Teacher Supply and Demand for the Public Schools of Manitoba (1989-2000)", an analysis of the following types of literature/research was conducted:

- the teacher labour market environment (in general)
- Canadian studies specific to teacher supply and/or demand
- the base upon which to choose a projection model.

2.1 The Teacher Labour Market

Analyses of recent North American studies, reports, and treaties revealed the following trends related to the teacher labour market:

2.1.1 Factors affecting the teacher labour market are numerous, intertwined and complex.

According to George Psacharopoulos (1987), planning for future teacher demand can be defined as securing the desired quantities and qualities of teachers according to the resources available for attracting, training and recruiting them. As the definition suggests, the factors which influence the teacher labour market can be numerous and complex.

In their critique of teacher labour market studies, Berry, Noblit and Hare (1985) identified the following "influencing factors" in the literature:

Student-Teacher ratio	Birth Rate
Demographic patterns	Student Retention Rate
Immigration	Emigration
Economic shifts and trends	Curriculum reform
Teacher career aspirations	Teacher mobility
Teacher characteristics	Teacher retirement
Deferred salary options	Sabbatical leave
Special programming	Educational policy changes
Working conditions/incentives	Impact of technology
Hiring of paraprofessionals	Regional/community characteristics

According to Berry, Noblit and Hare (1985), each of the above factors plays an important role regarding teacher supply and demand. They suggested that any investigation of teacher supply and demand should incorporate as many of these factors as possible.

2.1.2 Many important, influencing factors are qualitative, tenuous and difficult to measure.

Since the 1983 National Commission on Excellence's Nation at Risk (U.S.A.), research on the quality of the teacher labour market has increased sharply. The focus of much of this literature (Schlechty & Vance, 1983; Weaver, 1983) has been the quantitative analysis of the teaching ability and content knowledge of the teacher work force.

To some extent, these studies have been useful in bringing out such policies as career ladders and incentives to attract, reward and retain quality teachers. This reflects the national economic concept that talent will eventually flow to opportunity. However, as Bird (1984) pointed out, the variables affecting the teacher labour market are far more complex and subtle than most analysts and policy makers may believe.

According to Bird (1984), ensuring an adequate supply of competent teachers may involve many more factors than a mere increase in funding and the provision of higher salaries and incentives. He wrote:

> Quantitative studies, which have been the impetus for current reforms, often miss the mark since they are restricted to predetermined categories and questions. Subsequently, most of the studies on the teacher labour market have focused on the seemingly moot question, "why do teachers leave?" while ignoring many salient questions, including:
>
> 1. What are the documents of entry, existing, and reentry of teachers?
> 2. How do these dynamics vary in different geographic, economic, and cultural contexts?
> 3. What teacher characteristics are actually desired and needed by various school systems?
> 4. What are effects of working conditions on teacher mobility and job satisfaction?
> 5. Given the above, "Why do teachers stay?" (p. ii)

2.1.3 Qualitative and quantitative approaches should not be perceived as dichotomous or separate from each other. Rather, the two approaches should complement each other.

Berry, Noblit and Hare (1985) stressed that many influencing, qualitative factors cannot be identified before data collection and analysis begin. To be useful to policy makers, it is important to examine the data carefully and begin the complex process of attempting to understand the underlying trends, causes and effects as well as the relationships of all the influencing variables.

Bird (1984) argued that there is a need to go beyond linear relationships of quantitative measures of variables in an attempt to answer research questions. A careful examination of a quantitative analysis of data can lead to refining and transforming the research questions to render them more meaningful and more powerful.

2.1.4 Current societal transformations and their impact on education are creating increasing difficulties in forecasting the teacher labour market.

According to Williams (1987) the basic, rational economic model of supply and demand was more appropriate to the teacher labour market a decade ago than it is today. He argues that the shift from the industrial society to the information society has changed the nature of the teaching force. According to Williams, there were three conditions that made forecasting easier during the industrial age. These conditions were:

- To a large extent, education was a single-occupation undertaking, dominated by teachers. In the educational enterprise, complementarity and substitution between teachers and other professionals are limited.

- In most countries, teachers were mainly employed by the public authorities, the near monopolists (sole buyers) of teachers' services, so that decision-making about needs and employment was centralized.

- The concept of the "classroom teacher" was a dominant feature of the education system. Close to this concept was the pupil-teacher ratio which converted given enrolments of learners into appropriate numbers of teachers.

With the advent of the information society, these conditions have begun to change. Norman Henchey (1983) identified these changes:

- New technologies such as interactive video, distance education and computer assisted learning have had a major impact on the traditional classroom teacher concept. There are training opportunities offered by the media through private, public and educational broadcasting, expanded by satellite, cable and video recording systems which allow students to schedule their own education.

- The quality of knowledge and learning has also been developing, especially in the range, sophistication and complexity of the theories and practices of teaching. At a more fundamental level, there are indications of a paradigm shift in our understanding of the curriculum, the learning process and teaching. The fragmentation of knowledge into components like grades, levels, subjects and specialty areas is being seriously challenged and replaced by new concepts such as knowledge integration, process, generic skills, holistic learning and outcomes.

The impact of these changes on the teacher labour market is far reaching and yet to be realized.

- Learning is no longer restricted to the classroom and the classroom teacher. Business, industry, communities and other agencies are playing an increasing role in education. Paraprofessionals and professionals other than teachers are increasing in numbers and assuming more responsibilities which were once the domain of the teacher.

2.1.5 Teacher shortages tend to vary widely by specialty area, geographic region, and degree of urbanization.

Recent studies and articles (Robert, 1988; Denton, 1988; Dyck, 1987; Kloosterman, 1987; Hecker, 1986; Dobbs, 1986; Cornett, 1986; Champagne, 1986) suggest that shortages of teachers in specialty areas is a growing concern. According to these articles, the capacities and resources of teacher training institutions cannot meet the demand for specialty area teachers. Although the demand varies from region to region, current specialty areas identified in these articles included science and technology, fine arts, special education and vocational education.

With respect to geographic location, recent studies (Clark, 1987; Ward, 1987; Scott, 1987; Bruno, 1986; Lutzer, 1986; Gosman, 1986) indicate that geographic location is a major influencing factor in the teacher labour market. From these studies, a pattern emerged. Rural and isolated school systems appear to have significantly greater problems in recruiting and retaining teachers than urban divisions. As a result, rural education systems appear to have become aggressive in implementing various incentives (i.e., special pay allowances, educational leaves, opportunities for career advancements) to attract teachers.

2.1.6 French and Native self-governance is receiving paramount attention in our society. This will have a major impact on the teacher labour market. However, it is not fully understood what this impact will be.

Literature on the educational impact of Meech Lake is sparse and virtually non-existent. However, recent articles (Couture, 1987; Cummins, 1987; Mulcahy and Marfo, 1987) argue that French and Native self-governance in education will change the teacher labour force drastically. Cultural values will challenge and change the required competencies of teachers and the foundation and philosophy of the entire education system.

2.1.7 Increased emphasis on cultural diversity has added a new dimension and challenge to the teacher labour market.

Increasing the participation of minority groups in the teacher labour market is a

major thrust in North American literature (Webb, 1986; Tewel, 1987; Leonard, 1988; Hopkins, 1989). The majority of the literature has dealt with effective strategies for recruiting minority teachers, such as:

- developing curriculum programs and practices in teacher training institutions that enable minority students to enter teacher education and successfully complete requirements for admission to the profession
- providing financial assistance to minority students
- incorporating the principle of cultural diversity in teacher education programs.

2.1.8 The fast pace of societal change and educational reform presents difficulties in projecting accurate, long term, teacher labour market forecasts.

Uncertainty about the future is a common theme in the literature which examines the future teacher labour market. Nonetheless, some of the literature (Cooper, 1984; Keough, 1986; Starr, 1986; Rosenfeld, 1986; Duenk, 1987; Henchy, 1987; Groff, 1988; Leonard, 1988; Berry, 1988; Bowen, 1988) has predicted an increased demand for all teachers to have skills and knowledge in the following areas:

- science and technology
- generic skills
- counselling and knowledge in personal and social development
- knowledge of business, industry and the transition from school to work
- global, critical and creative thinking
- entrepreneurship
- moral and ethical reasoning
- sustainable development.

2.1.9 There is an increasing need to invest more resources in effective planning of teacher supply and demand.

According to Williams (1987), actual, recent experiences have shown serious miscalculations in forecasting the teacher labour market. Williams argued that these difficulties reflect, to a large extent, problems in correctly estimating future:

- changes in enrolment
- changes in attrition of teachers through death, retirement, resignation, and so forth
- changes in special programs
- changes in the pupil-teacher ratio through alteration of pupil hours per week, teacher hours per week, or class size
- changes in political/economic conditions.

In search of a balanced development of the teaching force, several researchers (Tiernay, 1985; Hawley, 1986; Engleking, 1987; Murnane, 1988; Berry, 1988) have suggested the following strategies to improve the research and planning of teacher supply and demand:

- developing a reliable and accurate bank of information on student enrolments and other pertinent demographic information.
- ensuring that education institutions become knowledgeable of and sensitive to labour market forces indigenous to their locale.
- developing more cooperation between institutions to centralize resources in the planning of teacher supply and demand. Tierney (1985) argued that without this cooperation, the dynamics of teacher supply and demand cannot be understood. He argued that presently, there is no agreement on the definition of a teacher, the relationship between class size and teacher effectiveness, and the "proper" career pattern of a teacher.
- developing a better understanding of the school milieu and the organizational culture of the education system, and how these impact the teacher labor market.
- marketing the benefits of non-urban living much as industry does to attract graduates to their rural industrial sites.
- developing a better understanding of the divergent mobility patterns between urban and rural teachers.
- conducting on-going research on the teacher labour market.
- developing a better understanding of how teacher supply and demand is affected by changes in educational systems and in society. As Smith (1987) pointed out, teacher education in Canada cannot be understood in itself, since it is always

connected to the educational system and to our society. Issues in teacher education arise when tensions develop between key points in our social system, especially between the universities, the schools and other institutions. This tension remains until a new accommodation is reached between the elements concerned.

2.2 Canadian Teacher Supply and Demand Studies

Over the past few years, a number of national and provincial research studies were conducted on teacher supply and demand in Canada (refer to Appendix A for list). Some were quantitative; while others were qualitative. The studies' conceptual frameworks and assumptions differed in each educational environment.

On the national level several demographic observations were noted:

- In contrast to declining enrolments throughout the 1970s and early 1980s, national elementary/secondary enrolments have been slowly increasing over the past five years.
- Teacher retirements have begun to accelerate.
- Over the last decade, the 20-24-year-old age group of teachers has been shrinking.

In regard to the teacher supply and demand issue, the following findings have been reported:

- Although not unanimous, most recent studies have indicated a general, gradual increase in teacher demand for the next decade.
- According to most studies, teacher demand is higher in northern, isolated and rural areas than in urban centres.
- Teacher demand is higher in specialty subject areas. These areas vary from province to province but common to all provinces is the need for French Immersion, special education and science teachers.

An analysis of the assumptions, research methodologies, scope of analysis, and stated limitations of each study yielded the following observations:

- Most studies reported a concern over the availability of accurate data. Common to most research designs was the reliance on Statistics Canada as the primary source of student enrolment projections. In utilizing this data source, however,

most studies did not acknowledge that Statistics Canada produces many data summaries and projections according to a variety of criteria and assumptions. Rationalization for "the chosen data source" of each study was lacking.

- All studies utilized a pupil-teacher ratio as the primary variable within their chosen models.

- A critical assumption made by most studies was a general "stability" in social, economic and political conditions. Critical influencing factors such as policy changes and economic/political/technological fluctuations were rarely mentioned and not incorporated.

- An acknowledged limitation of most studies was the non-inclusion of "qualitative" factors which influence supply and demand (e.g., career patterns of teachers and job satisfaction).

- Many studies interpreted a finding of increased **demand** as meaning a projected teacher **shortage**. This was concluded without an analysis of future supply.

2.3 Choosing a Forecasting Model

Many factors need to be considered when choosing a projection/forecasting procedure which is appropriate for a given set of conditions. These factors include the purpose of the forecast, the degree of accuracy required and the kinds of resources and data available (Chatfield, 1984). There are no clear-cut criteria that can be followed in selecting an appropriate model; however, there are some considerations which can serve as a general guide.

The first consideration is that projections are not predictions, but rather impressions of the future based on a set of assumptions. Assumptions about future events and outcomes involve uncertainty and this uncertainty increases with the length of the projection period. McClave and Benson (1985) point out that whatever forecasting method is adapted, one is extrapolating from the past into the future, with all the inherent dangers.

The second consideration is that there are always multitudes of intervening factors which can affect the accuracy of any forecast. Projection models attempt to control for as many variables as possible, but all methodologies contain error factors. Complex uni- and multi-variate analyses are most commonly employed when a great deal of historical data is available and influencing factors can be satisfactorily quantified. In other situations, subjective judgement, or a combination of statistical and conceptual modelling, have been shown to be useful. The method chosen depends upon the issue being studied, linked with available resources and planned use of results.

The third consideration is that statistical forecasting on social issues can never be entirely objective, rational and empirical (McClave and Benson, 1985). There are always subjective dimensions which cannot be quantified, and unknown factors that cannot be predicted. This suggests that the chosen model should be flexible to allow for modifications and changes.

The last consideration is that a model should be appropriate to the purpose and setting of the study.

The purpose of this study was to determine whether there would be a general shortage of teachers in Manitoba over the next 10 years and in what areas and locations these shortages would occur. Manitoba's educational system is an open one in which teachers come from, and go to, many locations. Policies governing the roles and practices of teachers across Canada, as well as the United States, influence the nature of Manitoba's educational environment. The model chosen had to take this into account.

3. METHODOLOGY

3.1 Conceptual Framework of Study

The analysis of Canadian research studies and the literature on the teacher supply and demand issue provided useful perspectives for shaping the research design of the Manitoba study. In light of these analyses, the research design incorporated the following critical considerations:

- the need to identify and address, as much as possible, all factors that influence the teacher labour market. . .to examine teacher supply and demand in the total context and to recognize both the qualitative and quantitative influencing factors
- the need to utilize a statistical model which contains demographic information on both students and teachers and which incorporates teacher-pupil ratios
- the need to address regional characteristics **
- the need to address program areas in special demand.

Paramount to the Manitoba study was the need to gain an understanding of the supply and demand issue at a provincial level. It was acknowledged, however, that the situation is not uniform across the province, and that factors influencing teacher supply and demand can vary from region to region, division to division and even school to school. In accordance with its mandate, the task force decided to focus the study on the provincial level, but where possible and feasible, to narrow it into regional and program analyses.

Although Manitoba's educational system contains public, private and federally funded schools, this study restricted its analysis to certified teachers in the public school system. In 1989-90, the public system contained 95% of Manitoba's students and 95% of the teachers. Within the public school system, hiring regulations dictate that all teachers must be provincially certified, whereas this is not the case within private schools. The task force acknowledged that only including the public school system was a limitation to the study.

The methodological tools utilized for the study, Teacher Supply and Demand for the

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** Manitoba was divided into the following regions:

Greater Winnipeg	-	Divisions 1-10, 12
Rural Manitoba	-	Divisions 11, 13-44, 47, District 2439
North Manitoba	-	Divisions 45, 46, 48, Districts 2264, 2309, 2312, 2355, 2460, 2461

Refer to Appendix C for maps of Manitoba which indicate the boundaries of each region.

Schools of Manitoba (1989-2000), included the following:

- an examination of historical trends related to elementary/secondary student enrolments, teachers, and teacher education graduates
- the projection of future provincial teacher demand, required acquisitions, and required beginning teachers for each year in the decade 1989-2000
- a survey of superintendents across Manitoba.

3.2 Examination of Historical Trends

In order to obtain an understanding of the educational environment within Manitoba, analyses of historical provincial data were conducted. Key to the analyses were the following data sources:

- Elementary/Secondary Student Data - Manitoba Education and Training has centralized historical records of student enrolments by school, age, grade and sex.
- Teacher Data - Manitoba Education and Training has a centralized Professional School Personnel (PSP) computer system which contains demographic and employment information on all employed, certified teachers in Manitoba. Data for 1986-1990 was accessible to the task force. Data from previous years were unavailable.
- Teacher Education Enrolment and Graduate Data - The University Grants Commission and Statistics Canada collect historical summarized data from Manitoba post-secondary institutions.

3.3 Projection of Teacher Demand, Acquisitions, and Beginning Teachers

The task force committee chose to utilize a demographic flow model for this study. The model consists of three categories of analysis with the following formulas:

Teacher Demand

$$\text{Demand} = \text{Student Enrolment} \div \text{Pupil Teacher Ratio} \qquad (1)$$

Teacher Acquisitions

$$A_t = D_t - D_{t-1} + W_{t-1} \qquad (2)$$

A_t	D_t	D_{t-1}	W_{t-1}
Acquisitions This Year	Demand This Year	Demand Last Year	Withdrawals Last Year

Beginning Teacher Requirements

$$B_t = A_t - R_t + O_t \quad (3)$$

B_t	A_t	R_t	O_t
Beginning Teachers This Year	Acquisitions This Year	Returners to teaching From Last Year	Other Sources This Year

This demographic flow approach was selected for its simplicity and flexibility to provide an overview of teacher supply and demand at a provincial level. The task force committee developed 20 teacher demand scenarios by applying four projected pupil-teacher ratio trends to five projected annual teacher withdrawal rates. For each demand scenario, projections of required acquisitions and beginning teachers were calculated.

3.4 School Superintendents' Survey

In order to place the statistical model into a workable context, the task force solicited feedback from school superintendents, who have daily contact with the supply and demand issue, through a survey questionnaire.

The survey was designed to solicit the following types of information on a regional and divisional basis:

- patterns in student enrolment projections (i.e., elementary- secondary)
- factors which influence student enrolments
- reasons for teaching vacancies through time
- expected teacher retirements for future years
- background of recruitments (i.e., new graduates, experienced teachers from other divisions, etc.)
- perceptions of teacher education graduates
- areas/skills/levels of vacancies most difficult to fill
- present recruitment methods and the perceived success of each method
- perceptions of the kinds of provincial strategies that should be taken to address teacher supply and demand in Manitoba.

The survey was designed by the task force committee, tested on three school divisions, revised, and finally mailed/faxed to all superintendents in Manitoba.

The following four sections of this report present the findings for each methodological approach:

Section 4 The Education Environment in Manitoba (Demographic Trends)
Section 5 Provincial Teacher Projections
Section 6 Regional Teacher Projections
Section 7 School Superintendents' Survey

Throughout the report, a number of statistical and issue-related terms have been used. These terms are defined in Appendix B.

4. THE EDUCATION ENVIRONMENT IN MANITOBA (DEMOGRAPHIC TRENDS)

In this study of teacher supply and demand, the following three components were examined:

- student enrolments
- teacher trends
- Faculties of Education student patterns.

This section of the report outlines the historical trends associated with Manitoba student enrolments, teachers, and teacher education students. Throughout the section, references are made to graphical presentations of data which are located in the Figures Section at the end of this report (page 93).

4.1 Student Enrolments

4.1.1 Manitoba School Age Population

Over the past decade, the number of Manitoba residents aged 5-17 years, has decreased annually. Between 1982 and 1989, Manitoba experienced a 3.1% decline. (See Figure 1 on page 93).

Distribution by age revealed that the decline was not uniform across age groups. The number of Manitoba births and the population aged from one to four slowly increased, the population aged 5-9 experienced a decline followed by a recovery, and the 10-14 and 15-17 year old groups both decreased. (See Figures 2 & 3 on pages 93-94).

These population trends indicate that the number of children at the entry level to school has been consistently increasing over the years, but this increase has not maintained itself thereafter.

4.1.2 Manitoba Public School Enrolments

During the past 15 years, the overall number of students attending Manitoba public schools has been steadily decreasing from 229,875 in 1974-75 to 197,724 in 1989-90. (See Figure 4 on page 95).

4.1.3 Public School Enrolments by Location in Province

Ninety-five percent of Manitoba students attend a public school. Of these students, more than half attend schools within Greater Winnipeg. Over the past 15 years, this proportion has been steadily increasing, in rural Manitoba it has been decreasing, and in the north it has remained stable. (See Figure 5 on page 95). Refer to footnote on page 13 for description of three geographic areas.

4.1.4 Public School Enrolments by Educational Category

Manitoba public school students are divided into three categories - early (K-4), middle (5-8), and senior (9-12). The early years level contains the greatest number and proportion of students. Over the past 15 years, the number of students within each category has been decreasing. Proportionally, the middle years category has been steadily decreasing, while both early and senior years levels have been systematically increasing. (See Figure 6 on page 96).

4.2 Teacher Trends

4.2.1 Manitoba Public School Teachers *

Over the past four years, the number of teachers has increased by 5%. In 1989-90, there were 13,751 teachers employed in public schools. (See Figure 7 on page 96).

The proportion of teachers who work part-time is increasing (from 11.3% in 1986-87 to 12.1% in 1989-90).

The male/female distribution is widening, with the proportion of women teachers rising from 56.5% in 1986-87 to 58.7% in 1989-90.

The average age of teachers is slowly increasing ... from 39.05 in 1986-87 to 39.85 in 1989-90.

More than half of all teachers are employed in Greater Winnipeg.

In 1989-90, 63.1% of teachers held a Bachelor's degree as their highest level of post-secondary training. Another 18.2% held a certificate/diploma, 15.8% a graduate

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* Throughout this report, the term "teachers" refers to all certified professional school personnel with the exception of superintendents and assistant superintendents.

degree, and the remaining 2.9% unspecified. The proportions of teachers with graduate degrees or certificates/diplomas are decreasing.

4.2.2 Manitoba Public School Teachers by Position

The distribution of teachers by position has remained fairly stable over the past 4 years. The proportion that are classroom teachers has decreased slightly (from 86.4% in 86-87 to 85.6% in 89-90), consultants and administrators have remained constant, and clinicians/counsellors have increased (from 3.7% to 4.4%). (See Figure 8 on page 97).

Over the past four years, the proportion of women has increased. Within categories, the traditional female dominance as classroom teachers, and male dominance in administrative positions, continues (e.g., one-third of administrators were women in 1989-90). (See Figure 9 on page 97).

The average age of professional personnel is greatest for administrators, followed by consultants, clinicians, and finally classroom teachers. (See Figure 10 on page 98).

4.2.3 Manitoba Public School Teachers by Location in Province

In 1989-90, 55.7% of teachers were employed in Greater Winnipeg school divisions, 36.6% in rural divisions, and the remaining 7.7% in northern Manitoba. (See Figure 11 on page 98).

Over the past four years, the number of teachers in Greater Winnipeg and rural Manitoba increased each year, while the number in northern Manitoba remained stable.

Proportionately, Greater Winnipeg has grown in representation (up from 54.7% in 86-87 to 55.7% in 89-90), while both rural and northern Manitoba have shrunk (37.2% to 36.6% and 8.1% to 7.7%, correspondingly).

Distribution of Manitoba's public school teachers by age over the past 15 years, confirms the expected "aging teaching force" phenomenon, but of particular interest are the large proportion of teachers below the "average age" and the declining proportion of teachers who are at the average age. (See Figure 12 on page 99).

The average age of teachers is increasing in all locations of Manitoba.

Teachers in the north have a much lower average age than those in the rest of the province (36.37 compared with 40.26 Greater Winnipeg and 39.95 in rural Manitoba in 1989-90). (See Figure 13 on page 99).

4.2.4 Out-of-province Teaching Experience

In 1989-90, 14.1% of Manitoba's public school teachers had out-of-province teaching experience. Over the past four years, this proportion has decreased (i.e., from 15.1% in 86-87 to 14.1%). (See Figure 14 on page 100).

A greater proportion of teachers in the north have out-of-province experience, compared with Greater Winnipeg and rural Manitoba teachers.

4.2.5 Teacher Retirements

The number of retirements from the teaching profession varies each year. Over the past four years, they have represented 1 - 3% of the teaching force.

Teacher retirements are extremely sensitive to external policies and economic conditions. The number of retirements leaped in 1985 as many school divisions introduced early retirement incentives, and then fell again in 1988 as incentives were removed. (See Figure 15 on page 100).

4.2.6 Use of Teacher Aides

In 1989-90, there were 1,848 Full-Time Equivalent (FTE) teacher aides in the Public school system. Compared with the 13,018 FTE teachers, a 1:14 teacher aide to certified teacher ratio existed.

Over the past four years, school divisions have been employing a greater number of teacher aides. There was a 54% increase in teacher aides between 1986-87 and 1989-90. Greater Winnipeg school divisions have increased their use of teacher aides the most (69.8% increase over four years). (See Figure 16 on page 101).

4.3 Teacher Education Student Patterns

4.3.1 Enrolments in Manitoba Faculties of Education

Enrolment in the Faculties of Education has been steadily increasing since 1984-85. In 1990-91, there were 4,984 students enroled in the September-April regular session. (See Figure 17 on page 101).

Undergraduate students constitute the greatest proportion of total enrolment, with the proportion growing each year (77% in 1984-85 to 88% in 1990-91). Note that pre-masters students are considered to be in the graduate program and are not included in these undergraduate data.

Over the years, part-time registration in both undergraduate and graduate programs has increased. At the undergraduate level, part-time enrolment grew from 36% in 1984-85 to 44% in 1990-91. At the graduate level, it grew correspondingly from 86% to 92%.

Since 1984-85, the proportion of enrolments which are women has continued to increase. In 1984-85 women constituted 71% of enrolments, while in 1989-90 they constituted 74%.

4.3.2 Teacher Education Enrolments vs. Overall University Enrolments

From 1984-85 through to 1990-91, enrolments within the Faculties of Education have represented 13-14% of the total Manitoba university enrolments.

4.3.3 Origin of Full-time Undergraduate Education Students

The proportion of non-Manitoban full-time undergraduate education students has grown annually. Proportionately, non-Manitoban students have increased their representation from 11% in 1984-85 to 14% in 1990-91.

Since 1984-85, the proportion of non-Manitobans which are from other Canadian provinces has increased (from 50% to 70%), while the proportion of foreign and visa students has decreased correspondingly.

The two provinces from which most non-Manitoban students originate are Ontario and Saskatchewan.

4.3.4 Faculty of Education Graduates

Between 1984-85 and 1989-90 the number of annual education graduates increased by 15% (from 807 in 1984-85 to 926 in 1989-90). (See Figure 18 on page 102).

Overwhelmingly, graduates from the Bachelors program outnumber graduates from the certificate/diploma or graduate programs. By 1989-90, 89% of graduates were from the Bachelors program.

The number of students graduating with Masters or Doctorate degrees has remained stable since 1984-85, with an increase recorded in 1989-90.

5. PROVINCIAL TEACHER PROJECTIONS

5.1 Selection of an Appropriate Model

As presented in the Review of the Literature (Section 2), projection of teacher demand has been conducted using a variety of methodologies, under a variety of assumptions. Typically, the best model utilizes information from a large number of sources and incorporates as many influencing factors as analytically possible.

There is always UNCERTAINTY associated with projection modelling. At best, a model can serve only as an indicator for future outcomes and should never serve as a predictor. With this in mind, the task force examined existing models with the following factors in mind:

- Analytical models are often developed but not understood. Indeed, the more sophisticated and complex the model, the more it can be misunderstood and misused:
  - the simpler the model, the more restricted its use
  - the more complex the model, the higher the chance of misuse.
- All existing models have been subjected to criticism. To date, there is no single model that has gained wide-spread acceptance.
- For Manitoba, there was an acknowledged limitation in the number of years of historical teacher data which was available and reliable. The task force weighed the consequences of each of the following two approaches:
  - to use only four years of reliable historical teacher data. (A consequence of computer conversions making only these years accessible.)
  - to use many years of unreliable historical teacher data. (From old reports produced for a variety of purposes.)

As the task force's mandate was to determine whether there would be a **general** teacher shortage in Manitoba over the next decade, committee members chose to utilize an easy-to-use and easy-to-understand model. The first methodological approach offered reliable teacher data, even though it was based upon four years.

As presented on pages 14 and 15, the selected "demographic flow" model incorporated the following basic formulas:

Teacher Demand

$$\text{Demand} = \text{Student Enrolment} \div \text{Pupil Teacher Ratio} \quad (1)$$

Teacher Acquisitions

$$A_t = D_t - D_{t-1} + W_{t-1} \quad (2)$$

A_t	D_t	D_{t-1}	W_{t-1}
Acquisitions This Year	Demand This Year	Demand Last Year	Withdrawals Last Year

Beginning Teacher Requirements

$$B_t = A_t - R_t - O_t \quad (3)$$

B_t	A_t	R_t	O_t
Beginning Teachers This Year	Acquisitions This Year	Returners to teaching From Last Year	Other Sources This Year

5.2 Teacher Demand Projections (Formula 1)

Projection of teacher **demand** for each of the years until 2000, means projecting the total number of teachers that will have to be employed within the teaching force each year. It is important to note that demand calculations are a projection of the **entire teacher stock.**

5.2.1 Student Enrolment Projections

The basis of the task force's selected projection model is projected public school student enrolments. Manitoba student enrolment projections are calculated by Manitoba Education and Training, and Statistics Canada. The calculations are conducted according to different assumptions, resulting in different sets of projections:

- Manitoba Education and Training - A single set of projections are made on an annual basis by the Schools' Finance Branch. Projections are made utilizing two techniques: (1) retention rates for Grades 2 - 12, and (2) Holt-Winters forecasting model for special education, nursery, kindergarten and Grade 1. Refer to Appendices D and E for projection figures and methodological explanation.

- Statistics Canada - A series of four projections, (published in catalogue 91-520) selected from a set of 20 population projections, are made according to varying fertility, mortality, immigration, and emigration criteria.

As projected student enrolments are the basis from which teacher demand will be projected (i.e., Demand = Enrolments divided by pupil-teacher ratio), the choice between utilizing the projections produced by Statistics Canada or those produced by Manitoba Education and Training became an important issue for the task force to address.

After serious consideration of both sources, and discussion with personnel from Manitoba Education and Training, Statistics Canada, and other provincial Departments of Education, the task force members unanimously agreed to use the projections produced by Manitoba Education and Training. This decision was made knowing that, historically, Manitoba Education and Training's projections have been quite accurate and, as such, have been used widely within the province's educational environment. Selection of this source was made with full knowledge that many other teacher supply and demand studies conducted in Canada (e.g., Canadian Teachers' Federation, January, 1989) had chosen to use one of the four projections produced by Statistics Canada.

5.2.2 Pupil-Teacher Ratios

As presented in Formula 1, projection of teacher demand for each of the years until 2000 requires knowledge of both the projected student enrolment and projected Pupil-Teacher Ratio (PTR) for each year. In order to obtain "a picture" of historical PTRs, the following formula was applied to existing data:

$$\text{Pupil-Teacher Ratio (PTR)} = \text{Student Enrolment} \div \text{Number of Teachers} \qquad (4)$$

The role of part-time teachers was taken into account. Over the past four years, part-time teachers have constituted 11-12% of the teaching force, with a workload which varied from 10% to 99% of a full load. The task force concluded that the most accurate count would be obtained by utilizing a **Full-Time-Equivalent (FTE)** calculation. For each teacher, the actual percent of teaching time was used to calculate the number of teachers (e.g., two part-time teachers with workloads of 75% and 40%, would yield a total FTE of 1.15 teachers).

The FTE teacher count was used to create pupil-teacher ratios for each of the years, 1986-87 and 1989-90:

Table 1
Historical Pupil-Teacher Ratios

	Head Count	FTE Count	Enrolment	PTR
1986-87	13,129	12,461	199,037	15.97
1987-88	13,369	12,668	199,434	15.74
1988-89	13,597	12,836	198,782	15.49
1989-90	13,751	13,018	197,724	15.19

From this table, it can be seen that the pupil-teacher ratio consistently decreased from 15.97 in 1986-87 to 15.19 1989-90.

5.2.3 Teacher Demand Projection Scenarios

It is important to stress that there is no certainty about the future. There are no definitive teacher demand numbers, and at best, only a variety of "best-fit scenarios." Projecting teacher demand requires an estimation of assumptions and the manipulation of analytical variables. For this report, future teacher demand is projected according to projected enrolments and a manipulation of Pupil-Teacher Ratios (PTR). The following analysis was conducted to provide the task force with a "picture" of teacher demand in the future from the perspective of a variety of "what-if" scenarios.

Demand projections were created according to four basic assumptions:

- **Constant PTR** - the PTR for future years will remain unchanged from 1989-90. Thus, the 1989-90 PTR of 15.19 will be applied to projected enrolments throughout the decade.

- **Increasing PTR** - the PTR for future years will increase. Thus, using 1989-90 PTR of 15.19 as the base, it will be increased each year by 0.2 throughout the decade.

- **Decreasing PTR** - the PTR for future years will decrease. Thus, using 1989-90 PTR of 15.19 as the base, it will be reduced each year by 0.2 throughout the decade.

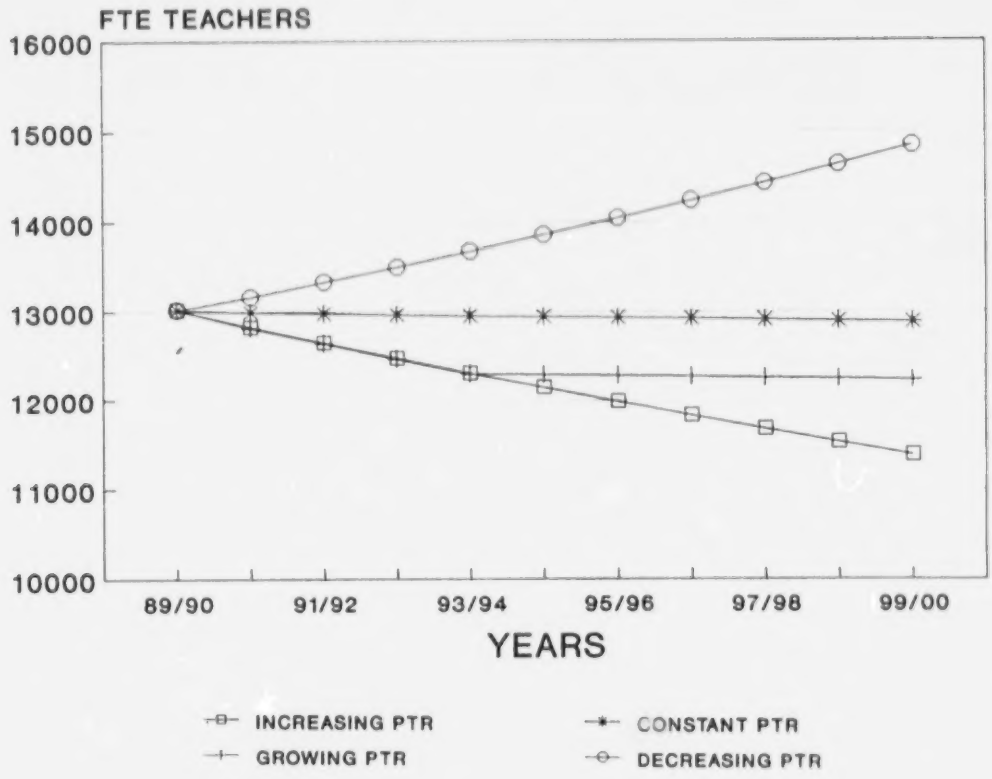
- **Growing PTR** - the PTR will continue to increase annually by 0.2 until it reaches 16.0 in 1993-94, at which time it will remain stable up to 1999-2000.

Utilizing annual student enrolment projections with the above assumptions, the following future FTE teacher demand possibilities emerged:

Table 2
FTE Teacher Demand Scenarios

	Projected	Constant PTR		Increasing PTR		Decreasing PTR		Growing PTR	
	Enrolment	PTR	Demand	PTR	Demand	PTR	Demand	PTR	Demand
1989/90	197,724	15.19	13,018	15.19	13,018	15.19	13,018	15.2	13,018
1990/91	197,374	15.19	12,995	15.39	12,827	14.99	13,169	15.4	12,816
1991/92	197,193	15.19	12,983	15.59	12,650	14.79	13,335	15.6	12,641
1992/93	196,981	15.19	12,970	15.79	12,477	14.59	13,503	15.8	12,467
1993/94	196,782	15.19	12,956	15.99	12,308	14.39	13,677	16.0	12,299
1994/95	196,627	15.19	12,946	16.19	12,146	14.19	13,859	16.0	12,289
1995/96	196,446	15.19	12,934	16.39	11,987	13.99	14,044	16.0	12,278
1996/97	196,285	15.19	12,924	16.59	11,833	13.79	14,236	16.0	12,268
1997/98	196,104	15.19	12,912	16.79	11,681	13.59	14,432	16.0	12,257
1998/99	195,924	15.19	12,900	16.99	11,533	13.39	14,634	16.0	12,245
1999/00	195,744	15.19	12,888	17.19	11,388	13.19	14,843	16.0	12,234

Table 3
Teacher Demand Graphic Representation



According to each assumption, there resulted:

Constant PTR	-	a very slight decrease in teacher demand in each future year.
Increasing PTR	-	a sharp and steady decrease in teacher demand.
Decreasing PTR	-	a sharp and steady increase in teacher demand.
Growing PTR	-	a sharp decrease in the teacher demand until 1993-94 at which point it would become stable and decrease very slightly in each future year.

With a 1989-90 base of 13,018 FTE public school teachers, it was projected that by the year 1999-2000 there would be a teacher demand of 11,388 (constant PTR), 12,888 (increasing PTR), 14,843 (decreasing PTR), or 12,234 (growing PTR).

Table 4
Percent Change in Teacher Demand (1989-90 to 1990-2000)

Scenario	1989-90 FTE Teachers	1999-00 FTE Demand	Percent Change
Constant PTR	13,018	12,888	- 1.0%
Increasing PTR	13,018	11,388	- 12.5%
Decreasing PTR	13,018	14,843	+14.0%
Variable	13,018	12,234	- 6.0%

Three of the four scenarios (constant, increasing and variable PTRs) projected a decrease in the demand for teaching positions over the next decade.

5.3 Teacher Acquisition Projections (Formula 2)

The composition of the teaching force changes annually. Each year, the majority of teachers returns for another year's employment, while other teachers leave (e.g., retirement, changing professions, etc.), and still others enter/reenter the profession. On an annual basis, it is of critical interest for administrators to know the number of new teachers they must hire. This entails knowledge of the number of returning teachers, the number of newly created positions, and the number of vacancies caused by teachers leaving or positions being eliminated.

Applying Formula 2 of the statistical model, projected acquisitions can be calculated by taking the projected demand for a particular year (D_t), subtracting the previous years teaching force D_{t-10}) and adding the number of withdrawals from the previous year W_{t-1}).

$$A_t = D_t - D_{t-1} + W_{t-1} \quad (2)$$

A_t	D_t	D_{t-1}	W_{t-1}
Acquisitions This Year	Demand This Year	Demand Last Year	Withdrawals Last Year

In order to work with this formula, it was necessary to apply the demand figures from the previous section (i.e., 5.2.3), as well as to introduce and manipulate the following new variables:

- number of returning teachers each year
- number of teachers who leave the profession each year (for whatever reasons)
- number of net additional positions each year.

Examination of existing historical data permitted an initial scan of the situation in past

years. (Refer to Appendix B for definitions associated with each of the following categories):

Table 5
Historical Teacher Movement within Teaching Force

	1986-87	1987-88	1988-89	1989-90
# teachers	13128	13366	13590	13746
# teachers previous year	-	13128	13366	13590
# net additional positions	-	+238	+224	+156
(percent of prev. year)	-	(1.8%)	(1.7%)	(1.2%)
# returning teachers	12157	12404	12570	12683
(return rate)	-	(94.5%)	(94.0%)	(92.3%)
# withdrawals between years	-	724	796	907
(withdrawal rate)	-	(5.5%)	(6.0%)	(6.7%)
# acquisitions	971	962	1020	1063
(acquisition rate)	-	(7.3%)	(7.6%)	(7.8%)

From this table, it can be noted that:

- The number of newly created positions (net additional positions) each year decreased
- The number and percent of teachers who returned each year decreased
- The number and percent of teachers who left (withdrew from) the profession each year increased
- The number and percent of required acquisitions each year increased.

In order to project the acquisition requirements for future years, the demand scenarios of constant PTR, increasing PTR, decreasing PTR, and growing PTR were applied to the Acquisition formula (2).

5.3.1 Withdrawal Factors

An aging teaching force and future retirements affect the number of teacher withdrawals each year. The teaching force in Manitoba is aging. Over the next 10 years, approximately 3,000 teachers will be aged 50-54; 2,200 aged 55-59; and 2,000 aged 60 or more. Currently, the retirement age without penalty is 55 years. This means that 4,200 teachers, or approximately 33 percent of Manitoba teachers, could be at or beyond age 55 by the year 2000.

Not all teachers retire at the same time or at the same age. Early retirement incentives encourage some to leave sooner (in recent years, approximately 30% of the 50-54 age group), while the lack of mandatory retirement encourages others to leave later (approximately 15% of those eligible to retire).

In recent years, 20-35% of teachers who leave the profession each year have been retirements. Applying the higher, 35% to the projected potential retirement numbers by the year 2000, it was estimated that there will be less than a 10% annual withdrawal rate from the teaching profession over the next decade (this includes all withdrawals; i.e., retirements, moving out of province, changing profession, etc.). Refer to Appendix F for calculations.

As retirement trends are subject to policy and social circumstances, the task force did not consider retirement to be the driving factor in potential future withdrawals. Retirements were viewed as only one factor, subject to many unknowns, which contribute to vacancy creation. Other factors such as position cutbacks within school divisions, teacher burn-out and stress, teacher mobility, teachers choosing to change careers, and so forth were considered to play key roles.

Teacher withdrawals are extremely varied and cannot be projected with high levels of reliability. Acknowledging that factors such as retirements and mobility are important to monitor, the task force considered it important to address **annual withdrawal rates** as a single variable in the Acquisition formula.

5.3.2 Projecting Withdrawal Rates

From 1987 to 1989, the annual withdrawal rate grew from 5.5% to 6.7% (refer to Table 5). The FTE teaching force in 1989-90 was 13,018, with 1,063 acquisitions recorded for that year. Using this as a baseline, five potential annual withdrawal rates (i.e., 6%, 8%, 10%, 12%, and a growing 7-10%) were applied to each of the projected demand scenarios (i.e., constant PTR, increasing PTR, decreasing PTR, and growing PTR) to produce 20 projected acquisition requirements. Refer to Table 7 on page 31 for the complete set of projections for each of the years until 1999-2000.

As a summary, Table 6 presents the projected acquisition requirements for the final year of projections, 1999-2000:

Table 6
1999-2000 Acquisition Requirements
According to Four Demand Scenarios and Five Withdrawal Assumptions

	1999/2000 Demand	6% wthd	8% wthd	10% wthd	12% wthd	growing wthd
Constant PTR	12,888	762	1,020	1,278	1,536	1.278
Increasing PTR	11,388	541	778	1,008	1,239	1,008
Decreasing PTR	14,843	1,087	1,380	1,672	1,965	1,672
Growing PTR	12,234	724	969	1,212	1,457	1,214

Table 7
Projected Acquisitions According to Five Withdrawal Assumptions

A. CONSTANT PTR

	PTR	Teacher Demand	net new positions	6% wthd	6% req. acquis	8% wthd	8% req. acquis	10% wthd	10% req. acquis	12% wthd	12% req. acquis	Growing Withd. %	Growing Withd. wthd	Growing Withd. req. acquis
1986/87		12461												
1987/88		12668	+ 207											
1988/89		12836	+ 168											
1989/90	15.19	13018	+ 182											
1990/91	15.19	12995	- 23	781	758	1041	1018	1302	1279	1562	1539	7%	911	888
1991/92	15.19	12983	- 12	780	768	1040	1039	1300	1288	1559	1547	7%	910	898
1992/93	15.19	12970	- 13	779	766	1039	1028	1298	1285	1558	1545	7%	909	896
1993/94	15.19	12956	- 14	778	764	1038	1024	1297	1283	1556	1542	8%	1038	1024
1994/95	15.19	12946	- 10	777	767	1036	1026	1296	1286	1555	1545	8%	1036	1026
1995/96	15.19	12934	- 12	777	765	1036	1024	1295	1283	1554	1542	8%	1036	1024
1996/97	15.19	12924	- 10	776	766	1035	1025	1293	1283	1552	1542	9%	1164	1054
1997/98	15.19	12912	- 12	775	763	1034	1022	1292	1280	1551	1539	9%	1163	1151
1998/99	15.19	12900	- 12	775	763	1033	1021	1291	1279	1549	1537	9%	1162	1150
1999/00	15.19	12888	- 12	774	762	1032	1020	1290	1278	1548	1536	10%	1290	1278

B. INCREASING PTR

	PTR	Teacher Demand	net new positions	6% wthd	6% req. acquis	8% wthd	8% req. acquis	10% wthd	10% req. acquis	12% wthd	12% req. acquis	Growing Withd. %	Growing Withd. wthd	Growing Withd. req. acquis
1986/87		12461												
!														
1989/90	15.19	13018	+ 182											
1990/91	15.39	12827	- 191	781	590	1041	850	1302	1111	1562	1371	7%	911	720
1991/92	15.59	12650	- 177	770	593	1026	849	1283	1106	1539	1362	7%	898	721
1992/93	15.79	12477	- 173	759	586	1012	839	1265	1092	1518	1345	7%	886	713
1993/94	15.99	12308	- 169	749	580	998	829	1248	1079	1497	1328	8%	998	829
1994/95	16.19	12146	- 162	738	576	995	833	1231	1069	1477	1315	8%	995	833
1995/96	16.39	11987	- 159	729	570	972	813	1215	1056	1458	1299	8%	972	813
1996/97	16.59	11833	- 154	719	565	959	818	1199	1045	1438	1284	9%	1079	925
1997/98	16.79	11681	- 152	710	558	947	807	1183	1031	1420	1268	9%	1065	913
1998/99	16.99	11533	- 148	701	553	934	786	1168	1020	1402	1254	9%	1051	903
1999/00	17.19	11388	- 145	692	547	923	778	1153	1008	1384	1239	10%	1153	1008

C. DECREASING PTR

	PTR	Teacher Demand	net new positions	6% wthd	6% req. acquis	8% wthd	8% req. acquis	10% wthd	10% req. acquis	12% wthd	12% req. acquis	Growing Withd. %	Growing Withd. wthd	Growing Withd. req. acquis
1986/87		12461												
!														
1989/90	15.19	13018	+ 182											
1990/91	14.99	13169	+ 151	781	932	1041	1192	1302	1453	1562	1713	7%	911	1062
1991/92	14.79	13335	+ 166	790	956	1054	1220	1317	1483	1580	1746	7%	922	1088
1992/93	14.59	13503	+ 168	800	968	1067	1235	1334	1502	1600	1768	7%	933	1101
1993/94	14.39	13677	+ 174	810	984	1080	1254	1350	1524	1620	1794	8%	1080	1254
1994/95	14.19	13859	+ 182	821	1003	1094	1276	1368	1550	1641	1823	8%	1094	1276
1995/96	13.99	14044	+ 185	832	1017	1109	1294	1386	1571	1663	1848	8%	1109	1294
1996/97	13.79	14236	+ 192	843	1035	1124	1316	1404	1596	1685	1877	9%	1264	1456
1997/98	13.59	14432	+ 196	854	1050	1139	1335	1424	1620	1708	1904	9%	1281	1477
1998/99	13.39	14634	+ 202	866	1068	1155	1357	1443	1645	1732	1934	9%	1299	1501
1999/00	13.19	14843	+ 209	878	1087	1171	1380	1463	1672	1756	1965	10%	1463	1672

D. GROWING PTR

	PTR	Teacher Demand	net new positions	6% wthd	6% req. acquis	8% wthd	8% req. acquis	10% wthd	10% req. acquis	12% wthd	12% req. acquis	Growing Withd. %	Growing Withd. wthd	Growing Withd. req. acquis
1986/87		12461												
!														
1989/90	15.2	13018	+ 182											
1990/91	15.4	12816	- 202	781	579	1041	839	1302	1100	1562	1360	7%	911	709
1991/92	15.6	12641	- 175	769	594	1025	850	1282	1107	1538	1363	7%	897	722
1992/93	15.8	12467	- 174	758	584	1011	837	1264	1090	1517	1343	7%	885	711
1993/94	16.0	12299	- 168	748	580	997	829	1247	1079	1496	1328	8%	997	829
1994/95	16.0	12289	- 10	738	728	984	974	1230	1220	1476	1466	8%	984	974
1995/96	16.0	12278	- 11	737	726	983	972	1229	1218	1475	1464	8%	983	972
1996/97	16.0	12268	- 10	737	727	982	972	1228	1218	1473	1463	9%	1105	1095
1997/98	16.0	12257	- 11	736	725	981	970	1227	1216	1472	1461	9%	1104	1093
1998/99	16.0	12245	- 12	735	723	981	969	1226	1214	1471	1459	9%	1103	1091
1999/00	16.0	12234	- 11	735	724	980	969	1225	1214	1469	1457	10%	1225	1214

The provincial acquisition rate in 1989-90 was 7.8%. Comparing the projected acquisitions in Table 6 to their corresponding demand, the following projected acquisition rates resulted for the year 1999-2000:

Table 8
1999-2000 Acquisition Rates
According to Four PTR Scenarios and Five Withdrawal Assumptions

	6% wthd	8% wthd	10% wthd	12% wthd	growing wthd
Constant PTR	5.9%	7.9%	9.9%	11.9%	9.9%
Increasing PTR	4.8%	6.8%	8.9%	10.9%	8.9%
Decreasing PTR	7.3%	9.3%	11.3%	13.2%	11.3%
Growing PTR	5.9%	7.9%	9.9%	11.9%	9.9%

As expected, the high 12% withdrawal assumption yielded a dramatic acquisition rate increase for all PTR scenarios, while the 6% withdrawal assumption projected an across-the-board rate decrease. These represented the extreme projected needs.

5.3.3 Selecting the Best-Estimate Acquisition Projection

The task force committee examined all 20 projected acquisition requirements, and concluded that the 6% and 12% withdrawal extremes were both very unlikely to occur.

It was acknowledged that when manipulating a projected withdrawal rate, it is desirable to have as thorough a knowledge of the influencing variables as possible. In the above 20 scenarios, different rates were assumed based on historical trends in order to obtain "a **picture** of what could be."

There are a variety of inter-related factors which influence projected withdrawal rates. The committee examined many:

- Retirements - although we know that the teaching force in Manitoba is aging, there is no reliable pattern to retirements without a mandatory retirement age. The biggest factor influencing the number (proportion) of retirements has been "policy change." As retirement incentives are introduced, the number of retirements increase, but when the incentives are pulled back, the number of retirements decrease (no matter what the age distribution of the teaching force).

- Teacher burn-out - a recent phenomenon that has been witnessed in Manitoba has been an increase in the loss of teachers after only a few, as well as many, years of teaching. These teachers simply leave the profession, moving onto other careers.

- Teacher mobility - increasingly we are seeing teachers' mobility increase - within/across divisions or to and from other provinces/states. The many factors which influence these moves are hard to predict. The end result, however, is an effect on potential vacant positions.

- Teacher retraining - at both the department and division levels there is increased emphasis on the need for retraining and professional development opportunities for teachers. This acknowledges teachers' changing responsibilities, equips them to do their jobs better, and encourages them to stay in their jobs.

- School Board financial restraint - the economic environment of school boards dictates their activities and policies. Historically, periods of high economic growth created new programs and teaching positions, while periods of recession have done the opposite. At the stroke of a pen, funding grants can be increased or decreased causing boards to evaluate their policies and associated teacher demand.

After much discussion, the task force committee members chose the **Constant PTR at 8% Withdrawal** as the most likely scenario for the 1990s. This consensus was based upon the data, the literature, and each Committee member's expertise and experience. Paramount to the decision, was an expected "balancing" of influencing factors over the next decade (e.g., the aging teaching force phenomenon may be counteracted by changing social/economic policies).

5.4 Beginning Teacher Acquisition Projections (Formula 3)

Important to the issue of teacher acquisition projections is an understanding of the composition (origin) of these acquisitions. In essence, new acquisitions are a composition of teachers who are returning to the teaching profession, beginning teachers who are recent graduates from the Faculties of Education, and teachers who have never taught in Manitoba before. The following equation presents this situation.

$$A_t = R_t + B_t + O_t$$

A_t	R_t	B_t	O_t
Acquisitions This Year	Returners to teaching This Year	Beginning Teachers This Year	Other Sources This Year

Manipulating this equation enables projections of beginning teacher requirements:

$$B_t = A_t - R_t - O_t \qquad (3)$$

B_t	A_t	R_t	O_t
Beginning Teachers This Year	Acquisitions This Year	Returners to teaching From Last Year	Other Sources This Year

Key to the task force committee's investigation is the projection of beginning teachers who will be required in each of the next 10 years to the year 2000. The Faculties of Education within Manitoba are sources of these future teachers.

5.4.1 Basis for Beginning Teacher Projections

An analysis of existing historical data found that approximately two-thirds of annual acquisitions have been "new hires to Manitoba" (i.e., beginning teachers and teachers with no previous Manitoba experience), while the remaining one-third have been teachers returning to the profession after an absence (for a variety of reasons) of more than one year.

Table 9
Composition of Acquisitions
(1986-87 to 1989-90)

	New Hires to Manitoba	Returning Teachers	Total Acquisitions
1986-87	690 (71%)	281 (29%)	971
1987-88	673 (70%)	289 (30%)	962
1988-89	658 (65%)	362 (35%)	1020
1989-90	661 (62%)	402 (38%)	1063

Over the past four years, however, there has been a continual decline in the proportion of acquisitions which were "new hires." Even though there was an increase in the overall number of new acquisitions between 1986-87 and 1989-90 (from 971 to 1,063), there was a drop of 9% in the proportion that were new hires.

Key to formula (3) was a breakdown of "new hires" into beginning teachers and teachers from other sources (e.g., out-of-province). Limitations in data availability, unfortunately, only permitted an analysis for 1989-90. The following distribution was found:

Table 10
Composition of 1989-90
Teacher Acquisitions

Category of Acquisition	number	proportion
Beginning teachers	499	47%
Returning teachers	402	38%
Teachers from other sources	162	15%
	1,063	100%

For 1989-90, 47% of new acquisitions were beginning teachers (i.e., recent university graduates, from Manitoba as well as other institutions, who had never been certified to teach

before).

Although noted as being tenuous (as one year's data does not constitute a trend), the task force decided to work with the 1989-90 data to provide a estimate of what the beginning teacher requirements could be in future years.

5.4.2 Beginning Teacher Estimates

Application of the 47%-38%-15% (beginner-returner-other) distribution to the four demand scenarios (constant PTR, increasing PTR, decreasing PTR, and growing PTR) and five withdrawal rates (6%, 8%, 10%, 12% and growing) yielded 20 beginner teacher estimate scenarios. Refer to Table 12 on page 36 for the complete set of estimates for each year of the next decade until 1999-2000.

Table 11 presents the two extreme ranges for estimated beginning teacher requirements by the year 1999-2000. Depending upon circumstances, the annual need for beginning teachers in Manitoba could range from 257 to 923.

Table 11
Beginning Teacher Requirements

	Lowest Level Inc. PTR 6% Wthd	Highest Level Dec. PTR 12% Wthd
Beginning teachers	257	923
Returning teachers	208	747
Other teachers	82	295
	547	1,965

Examining the estimates associated with the **Constant PTR at 8% Withdrawal** (in keeping with the task force committee's "best-fit" acquisition scenario), an estimated 479 beginning teachers will be required for the year 1999-2000. Note, that this estimate is slightly lower than the 499 which were hired in 1989-90 (our baseline year).

5.4.3 Manitoba Education Graduates Employed as Beginning Teachers with Manitoba's Public Schools

For each of the past four years (1987-1990), Manitoba universities have graduated between 640 and 728 students from the teacher education programs (Bachelor level) who were eligible for first-time certification. Of these graduates, the following proportions became employed as teachers within Manitoba's public school system the following year:

Table 12 ... Projected Beginning Teachers According to Four Withdrawal Assumptions

A. CONSTANT PTR

	Teacher	6% Wthd Level				8% Wthd Level				12% Wthd Level				Growing Level (7-10%)			
	Demand	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%
1989/90	13018	-				-				-				-			
1990/91	12995	758	356	288	114	1018	478	387	153	1539	723	585	231	888	417	338	133
1991/92	12983	768	361	292	115	1039	488	395	156	1547	727	588	232	898	422	341	135
1992/93	12970	766	360	291	115	1028	483	391	154	1545	726	587	232	896	421	341	134
1993/94	12956	764	359	290	115	1024	481	389	154	1542	725	586	231	1024	481	389	154
1994/95	12946	767	361	291	115	1026	482	390	154	1545	726	587	232	1026	482	390	154
1995/96	12934	765	359	291	115	1024	481	389	154	1542	725	586	231	1024	481	389	154
1996/97	12924	766	360	291	115	1025	482	389	154	1542	725	586	231	1054	495	401	158
1997/98	12912	763	359	290	114	1022	480	389	153	1539	723	585	231	1151	541	437	173
1998/99	12900	763	359	290	114	1021	480	388	153	1537	722	584	231	1150	540	437	173
1999/00	12888	762	358	290	114	1020	479	388	153	1536	722	584	230	1278	601	485	192

B. INCREASING PTR

	Teacher	6% Wthd Level				8% Wthd Level				12% Wthd Level				Growing Level (7-10%)			
	Demand	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%
1989/90	13018	-				-				-				-			
1990/91	12827	590	277	224	89	850	400	323	127	1371	644	521	206	720	338	274	108
1991/92	12650	593	279	225	89	849	399	323	127	1362	640	518	204	721	339	274	108
1992/93	12477	586	275	223	88	839	394	319	126	1345	632	511	202	713	335	271	107
1993/94	12308	580	273	220	87	829	390	315	124	1328	624	505	199	829	390	315	124
1994/95	12146	576	271	219	86	833	391	317	125	1315	618	500	197	833	391	317	125
1995/96	11987	570	268	217	85	813	382	309	122	1299	610	494	195	813	382	309	122
1996/97	11833	565	266	214	85	818	384	311	123	1284	603	488	193	925	435	351	139
1997/98	11681	558	262	212	84	807	379	307	121	1268	596	482	190	913	429	347	137
1998/99	11533	553	260	210	83	786	369	299	118	1254	589	477	188	903	424	343	136
1999/00	11388	547	257	208	82	778	366	295	117	1239	582	471	186	1008	474	383	151

C. DECREASING PTR

	Teacher	6% Wthd Level				8% Wthd Level				12% Wthd Level				Growing Level (7-10%)			
	Demand	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%
1989/90	13018	-				-				-				-			
1990/91	13169	932	438	354	140	1192	560	453	179	1713	815	658	260	1062	499	404	159
1991/92	13335	956	449	363	144	1220	573	464	183	1746	821	663	262	1088	511	414	163
1992/93	13503	968	455	368	145	1235	581	469	185	1768	831	672	265	1101	518	418	165
1993/94	13677	984	462	374	148	1254	589	477	188	1794	843	682	269	1254	589	477	188
1994/95	13859	1003	471	381	151	1276	600	485	191	1823	857	693	273	1276	600	485	191
1995/96	14044	1017	478	386	153	1294	608	492	194	1848	869	702	277	1294	608	492	194
1996/97	14236	1035	487	393	155	1316	619	500	197	1877	882	713	282	1456	684	553	219
1997/98	14432	1050	494	399	157	1335	628	507	200	1904	895	723	286	1477	694	561	222
1998/99	14634	1068	502	406	160	1357	638	516	203	1934	909	735	290	1501	706	570	225
1999/00	14843	1087	511	413	163	1380	649	524	207	1965	923	747	295	1672	786	635	251

D. GROWING PTR

	PTR	Teacher	6% Wthd Level				8% Wthd Level				12% Wthd Level				Growing Level (7-10%)			
		Demand	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%	Acq	Beg 47%	Ret 38%	Oth 15%
1989/90	15.2	13018	-				-				-				-			
1990/91	15.4	12816	579	272	220	87	839	394	319	126	1360	639	517	204	709	333	269	107
1991/92	15.6	12641	594	279	226	89	850	400	323	127	1363	641	518	204	523	246	199	78
1992/93	15.8	12467	584	274	222	88	837	393	318	126	1343	631	510	202	711	334	270	107
1993/94	16.0	12299	580	273	220	87	829	390	315	124	1328	624	505	199	829	390	315	124
1994/95	16.0	12289	728	342	277	109	974	458	370	146	1466	689	557	220	974	458	370	146
1995/96	16.0	12278	726	341	276	109	972	457	369	146	1464	688	556	220	972	457	369	146
1996/97	16.0	12268	727	342	276	109	972	457	369	146	1463	688	556	219	1095	515	416	164
1997/98	16.0	12257	725	341	276	108	970	456	369	145	1461	687	555	219	1093	514	415	164
1998/99	16.0	12245	723	340	275	108	969	456	368	145	1459	686	554	219	1091	513	415	163
1999/00	16.0	12234	724	340	275	109	969	456	368	145	1457	685	554	218	1214	571	461	182

Beg = Beginning teachers with no teaching experience.
Ret = Returning teachers who have been out of profession for one or more years.
Oth = Experienced teachers from other sources (eg, out-of-province).

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Table 13
Manitoba University Graduates
Employed as Teachers in Public Schools (1987 to 1990)

		Year of Graduation			
		1987	1988	1989	1990
Employed	Urban	155	183	188	174
	Rural	177	132	143	150
	North	40	87	7	67
		372 (51%)	402 (63%)	407 (57%)	391 (55%)
Total Graduates		728	640	720	717

For each year, over half of the graduates gained employment in Manitoba's public school system. Of the others, some returned to university, some gained employment within Manitoba's private school system or outside Manitoba, some changed their profession, while others simply took time off.

Of the total number of beginning teachers hired in 1989-90, 82% were from Manitoba universities (407 of 499 total beginners).

6. REGIONAL TEACHER PROJECTIONS

At the provincial level (Section 5) this study has projected a continuing **demand** for teachers throughout the 1990s. Provincially, student enrolments were projected to decrease slowly and the pupil-teacher ratio projected to remain constant. Annual withdrawals from the teaching force were viewed to reach and remain at 8%, creating an annual acquisition requirement slightly in excess of 1,000 teachers (a level comparable to what it was at the time of this report).

6.1 Selection of Procedure and Timeframe

As stated earlier in the report, **teacher demand and required acquisitions** are not universal phenomena. Task force members acknowledged that the factors which apply to the province as a unit, do not directly apply to individual regions. Thus, the provincial projection of a constant PTR with an 8% annual withdrawal rate must not be assumed for the regions. Although not explicitly part of its mandate, the task force committee conducted an analysis of teacher demand and required acquisitions at a regional level. This was done to gain a greater understanding of the nature and complexity of the teacher supply and demand issue in Manitoba. Further acknowledgement was made that as the population is reduced for regional analysis, there is much less confidence in the projections which are produced. With this caution in mind, the task force conducted the following short, snapshot analysis at the regional level.

For the purpose of this study, Manitoba was divided into the following three geographic areas (refer to Appendix C for maps):

Greater Winnipeg	-	Divisions 1-10, 12
Rural Manitoba	-	Divisions 11, 33-44, 47 Districts 2439
North Manitoba	-	Divisions 45, 46, 48 Districts 2264, 2309, 2312, 2355, 2460, 2461

The analysis that was conducted at the provincial level (Section 5) made teacher demand and required acquisition projections for each of the next 10 years (i.e., 1990-91 to 1999-2000). The task force committee decided to make regional projections for a shorter period of time, for each of the next five years (i.e., 1990-91 to 1994-95). This was done to create as useful a picture as possible, and to counterbalance the smaller population bases with the reduced reliability projections over large number of years.

Key to this analysis by region is the acknowledged difference between Greater Winnipeg and both rural and northern Manitoba. Greater Winnipeg is compressed into a small geographic area, while the other two areas represent vast geographic areas. Increases and decreases in projected teacher demand carry much more significance in rural and northern Manitoba as the ability to distribute the demand (based on enrolment

and PTRs) can be tenuous if program offerings are not to be disturbed.

6.2 Teacher Demand Projections

$$\text{Demand} = \text{Student Enrolment} \div \text{Pupil Teacher Ratio} \qquad (1)$$

Greater Winnipeg is the largest of the three geographic groups with over 100,000 students and 7,000 FTE teachers. Northern Manitoba is the smallest group with the least students and teachers, but encompasses the greatest geographic area. For each of 1988-89 and 1989-90 school years, a summary of enrolments, teachers and pupil-teacher ratios are as follows:

Table 14
Regional Demographics
(1988-89 and 1989-90)

	1988-89	1989-90
Enrolments:		
Greater Winnipeg	107,312	107,034
Rural Manitoba	76,155	75,637
North Manitoba	15,315	15,053
	198,782	197,724
Teachers (FTE):		
Greater Winnipeg	7,126.13	7,239.69
Rural Manitoba	4,680.56	4,736.63
North Manitoba	1,023.39	1,028.96
	12,830.08	13,005.28 *
Pupil-Teacher Ratios:		
Greater Winnipeg	15.06	14.78
Rural Manitoba	16.27	15.97
North Manitoba	14.96	14.63
	15.49	15.19

* differs from the provincial total of 13,018 due to rounding.

Projected enrolment for each of the three groups for the years 1990-91 to 1994-95 was extracted from the provincial enrolment projections (Appendix G). Unlike the provincial trend of slow decline, enrolment within Greater Winnipeg was projected to increase. This increase is expected at the expense of both rural and northern Manitoba, with the greatest numbers coming from the rural sector.

For 1989-90, the pupil-teacher ratio was lowest in northern Manitoba (14.63), highest in rural Manitoba (15.97), with Greater Winnipeg in between (14.78). Applying the same demand scenarios as were conducted on the macro-provincial level, Table 15 presents the regional demands required by 1994-95 (refer to Appendix H for complete scenario figures):

Table 15
Regional Teacher Demand Scenarios
(1989-90 Compared to 1994-95 Projections)

	Greater Winnipeg	Rural Manitoba	North Manitoba	Total Province
1989-90 FTE Teachers	7,240	4,737	1,029	
Constant PTR - 1994-95 demand	7,249	4,633	991	
% change	+0.1%	-2.2%	-3.7%	-0.6%
Increasing PTR - 1994-95 demand	6,790	4,360	928	
% change	-6.2%	-8.0%	-9.8%	-6.7%
Decreasing PTR - 1994-95 demand	7,775	4,942	1,064	
% change	+7.4%	+4.3%	+3.4%	+6.5%
Growing PTR - 1994-95 demand	6,877	4,471	940	
% change	-5.0%	-5.6%	-8.6%	-5.6%

Over the next five years, Greater Winnipeg is projected to have the greatest demand for teachers. Under both the constant PTR and decreasing PTR scenarios, Greater Winnipeg's demand is projected to increase. It is only under the decreasing PTR scenario that rural and northern Manitoba are projected to experience increased demands.

6.3 Teacher Acquisition Projections

$$A_t = D_t - D_{t-1} + W_{t-1} \qquad (2)$$

A_t	D_t	D_{t-1}	W_{t-1}
Acquisitions This Year	Demand This Year	Demand Last Year	Withdrawals Last Year

At the provincial level, the 1989-90 acquisition rate was 7.8%. Five years later in 1994-95, depending upon the scenario, this rate was projected to decline to a low of 4.8% (increasing PTR at 6% withdrawal rate) or rise to a high of 13.2% (decreasing PTR at 12% withdrawal rate). Regionally, over the next five years, the following projections emerged:

Table 16
Regional Teacher Acquisitions (1994-95)

	1994-95 Demand	6% wthd Acq Rate	8% wthd Acq Rate	10% wthd Acq Rate	12% wthd Acq Rate
Greater Winnipeg					
Constant PTR	7,249	438 (6.0%)	583 (8.0%)	728 (10.0%)	873 (12.0%)
Increasing PTR	6,790	329 (4.8%)	467 (6.9%)	604 (8.9%)	742 (10.9%)
Decreasing PTR	7,775	575 (7.4%)	728 (9.4%)	881 (11.3%)	1,084 (13.9%)
Growing PTR	6,877	416 (6.0%)	554 (8.1%)	691 (10.0%)	829 (12.1%)
Rural Manitoba					
Constant PTR	4,633	271 (5.8%)	364 (7.9%)	457 (9.9%)	550 (11.9%)
Increasing PTR	4,360	206 (4.7%)	295 (6.8%)	383 (8.8%)	471 (10.8%)
Decreasing PTR	4,942	350 (7.1%)	448 (9.1%)	546 (11.0%)	643 (13.0%)
Growing PTR	4,471	262 (5.9%)	351 (7.9%)	441 (9.9%)	530 (11.9%)
North Manitoba					
Constant PTR	991	54 (5.4%)	73 (7.4%)	94 (9.5%)	114 (11.5%)
Increasing PTR	928	39 (4.2%)	58 (6.3%)	77 (8.3%)	96 (10.3%)
Decreasing PTR	1,064	72 (6.8%)	93 (8.7%)	115 (10.8%)	136 (12.8%)
Growing PTR	940	51 (5.4%)	70 (7.4%)	89 (9.5%)	108 (11.5%)

Refer to Appendix I for complete scenario figures.

By the year 1994-95, Greater Winnipeg was projected to require the greatest number of acquisitions, while northern Manitoba was projected to require the least. Based upon the experience of task force members, it was concluded that the annual withdrawal rates across the regions would not be the 8% as projected for the province as a whole. It was determined that northern Manitoba would experience an annual withdrawal rate potentially in excess of 12%, and that rural Manitoba's rate would be less than the North but higher than Greater Winnipeg.

Within the northern and rural divisions/districts, the high level of annual "required acquisitions" takes on special meaning. Finding and retaining teachers who have the willingness to teach in a non-urban setting has historically been difficult. In addition, because of the smaller student populations within their schools, concern exists about whether the supply of new teachers (i.e., those available to fill the acquisition slots) will have the skills and specialties to address their particular needs.

7. SUPERINTENDENTS' SURVEY

In order to enhance the statistical analysis of teacher supply and demand, the task force considered it important to solicit information on current and future availability of teachers from Manitoba's school superintendents. On a frequent basis, school boards, through their superintendents, analyze their division/district's needs in regard to current and future teacher requirements. It is at the school board level that teacher supply and demand "influencing factors" are most prominent.

7.1 Methodology

In early June, 1990, a questionnaire was drafted and piloted in three school divisions. In mid-June, it was revised to incorporate the comments and concerns of the pilot superintendents. The final questionnaire was written in both official languages and sent to all Manitoba superintendents at the end of June. Refer to Appendices J and K for the introduction letter and questionnaire.

With the assistance of the Manitoba Association of School Superintendents, a 93% response rate was obtained:

Table 17
Superintendents' Survey
Response Rates

	Number Mailed	Number Returned	Response Rate
Greater Winnipeg	10	8	80%
Rural Manitoba	36	35	97%
North Manitoba	8	7	88%
	54	50	93%

The distribution of responses, which included both the largest and smallest school divisions, was representative of the province.

The questionnaire was divided into the following four sections:

- student enrolment patterns and projections
- school personnel and historical position vacancies
- 1990-91 situation:
  - background of new teachers
  - suitability of applicants
  - areas/skills/levels of vacancies most difficult to fill

- out-of-province hiring
- recruitment methods
- perception of a teacher shortage

- suggested strategies to enable the Department to address the teacher supply and demand issue.

The following four subsections (i.e., 7.2 to 7.5) analyze the findings associated with each of the questionnaire's four categories listed above. Appendix L contains the question-by-question results for Greater Winnipeg, rural Manitoba, and northern Manitoba.

7.2 Student Enrolment Patterns and Projections (Q.1)

- Three-quarters of superintendents agreed with the five-year student enrolment projections produced by the Department's Schools Finance Branch. Of the one-quarter that did not, more than half predicted their future enrolments to be lower than projected.

- Factors presented as causing potential declining enrolments were:

- aging community and restricted high school course offerings	- Greater Winnipeg
- rural depopulation	- Rural Manitoba
- mining economy and down-swing in economic development	- Northern Manitoba

- Factors causing potential increasing enrolments were:

- new subdivisions/housing	- Greater Winnipeg
- business/tourism development and government decentralization	- Rural Manitoba
- greater local economic development	- Northern Manitoba

7.3 School Personnel and Position Vacancies

7.3.1 Professional Personnel Projections (Q.2)

- When asked to project the number of professional staff their divisions will require over the next five years, 80% of superintendents responded. Of these, 30% projected increases in staff, 43% decreases, and 27% no change. Half of the Greater Winnipeg divisions projected increases, while just over one-quarter of the rural and northern divisions did so.

- The most often cited positions of projected **increase** were counsellors and resource teachers, while the single most often cited position projected as **decreasing** was regular classroom teachers.

7.3.2 Position Vacancies (Q.3)

- When asked to outline the reasons for position vacancies in the past five years (Q.3a), more than half the superintendents could not respond. Many stated that their divisions did not keep historical records, while others reported that they do not ask departing staff their reasons for leaving.

- Of the divisions which submitted historical information, the following patterns for vacancy reasons were recorded:

  - Greater Winnipeg - emphasis on retirement and availability of new positions.
  - Rural Manitoba - variety of reasons, but staff movement out-of-division/province was prominent.
  - Northern Manitoba - almost completely caused by staff moving out of the division/province.

- Predicting teaching vacancies caused superintendents as much difficulty as reporting historical vacancies. Half the school divisions reported stability (± five positions) in the number of projected annual vacancies per year, while a third projected increases and the remaining one-fifth decreases. Just under half of Greater Winnipeg and rural Manitoba superintendents projected increases.

7.3.3 Retirements (Q.4)

- The majority of superintendents reported that retirements would be higher than usual in the coming years. This was most strongly expressed in Greater Winnipeg and in rural divisions. Aging staff was cited as the primary reason for this projection with only a few divisions reporting "early" retirement as a factor.

7.4 The 1990/91 Situation

7.4.1 Source of new teachers (Q.5)

- Overwhelmingly, most teacher vacancies were reported as being filled from two major sources: experienced teachers from other divisions, and new Manitoba university graduates.

7.4.2 Evaluation of 1990/91 Applicants (Q.6)

- The majority of superintendents expressed general satisfaction with both the number and qualifications of applicants for 1990-91. Twenty-two percent of superintendents reported that they had an "adequate number" of applicants in

all subject areas, with another 68% reporting so in some subject areas. In regard to having a choice of "good candidates," 16% reported it to be the case in all subject areas, and 78% reported it to be true in some areas. Less than 10% of superintendents said they were dissatisfied with numbers and quality (these being in rural and northern Manitoba).

- Q6 also asked superintendents to indicate the capacities/subject matters/skills/levels in which they were experiencing the greatest need. Most superintendents only responded to the items which they perceived to be important to their division, while leaving other areas blank (no response). There were three items which were identified by more than 20 superintendents as having a "greater than usual" need:

Resource teaching	.....	33 divisions
Special needs	.....	24 divisions
Music	.....	22 divisions.

The areas selected from the prepared list by superintendents and stated as priority areas included:

Resource teaching	.....	56% of divisions
Core French	.....	46% of divisions
French Immersion	.....	42% of divisions
Music	.....	31% of divisions
Special Needs	.....	29% of divisions
Français	.....	17% of divisions
Sciences	.....	17% of divisions
Vocational	.....	17% of divisions
Administrators	.....	17% of divisions.

7.4.3 Out-of-Province Recruitment (Q.7)

- 44% of superintendents reported they were experiencing a greater need to recruit out-of-province. This was most strongly expressed by northern divisions/districts. The reason most commonly presented by superintendents experiencing the need was "shortage of French teachers".

- two-thirds of superintendents predicted that they will probably have to hire teachers from out-of-province more frequently in the future. Of those that expressed this need, the most often presented reason was "shortage of French teachers." Other reasons included "need for specialists," and "not enough applicants."

- Of the superintendents who did not express a need to hire outside the province,

the most often presented reason was "have many applications." Three rural divisions mentioned their proximity to Winnipeg was a key factor for their lack of out-of-province recruitment.

7.4.4 Costs of Recruitment (Q.8)

- three-quarters of superintendents stated that in recent years recruitment was costing their division more time and money. Distance from Winnipeg was a noticeable factor. The most often cited reasons for this increase were:

  - need to place more ads across Canada
  - taking longer to fill positions
  - increased travel required (especially for northern divisions)
  - need for specialized teachers (primarily a Greater Winnipeg concern).

7.4.5 Recruitment Methods (Q.9)

- When asked to list recruitment methods they utilize (beyond the usual methods of local and provincial advertisements), 37 of the 50 superintendents (74%) responded.

- There was no single widely used method, but rather 18 different methods, each used by a different division with varying degrees of success. Methods cited the most included:

  - student teacher contact
  - university ads
  - word of mouth
  - media ads
  - out-of-province ads
  - contact with other superintendents.

  No method was rated unanimously as "very successful."

7.4.6 Experiencing a Current Teacher Shortage (Q.10)

- Over two-thirds of superintendents (34 of 50) reported that they did <u>not</u> currently have a teacher shortage.

- Of the superintendents who reported they <u>were</u> experiencing a shortage, it was most prevalent in the north (half their divisions/districts reporting such). Only one Greater Winnipeg division reported a shortage.

- Of those experiencing a shortage, their attempts to deal with it were varied:

procedural approaches:

- examining different recruitment strategies
- advertising out-of-province more
- narrowing recruitment to specialized positions
- obtaining letters of authority
- utilizing distance education
- working with hiring agencies
- using itinerant teachers more.

cut-back approaches:

- forfeit grants
- combine classes
- cut programs
- hire less qualified teachers
- combine teacher responsibilities
- go without specialists.

7.5 Suggested Strategies for Department of Education and Training (Q.11)

- The last question in the survey was an open-ended request to superintendents to offer strategy suggestions to the department to better enable the teacher supply and demand issue to be addressed. Eighty-eight per cent of the superintendents responded. Sorting the responses by location in the province (i.e., Greater Winnipeg, rural Manitoba, and northern Manitoba), the verbatim comments are provided in Appendix M.

- The responses emphasized the following:

  - provide incentives for teachers to teach in rural/north areas
  - increase the number of education graduates in French Immersion
  - train more special needs, resource teachers, and counsellors
  - publicize to improve the status/image of teaching
  - provide incentives for retraining of teachers
  - develop better inventory of existing and expected teaching vacancies
  - prepare for anticipated vacancies; work with universities and division boards
  - improve the quality of teacher training; provide better practicums & programs.

- Of interest were two contradictory suggestions regarding out-of-province hiring. Some superintendents strongly advocated that the department help to attract more out-of-province teachers, while other superintendents wanted the department to restrict out-of-province recruitment.

8. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

Currently, Manitoba is not experiencing a teacher **shortage**. Through both the modelling exercise and the school superintendents' survey, it was found, however, that over the next decade there will be a continuing **demand** for teachers which, minimally, is equivalent to current levels. In selected locations of the province and in selected program areas, it was found that there will be an increased **demand** for teachers. Whether the future demand will transform into a shortage, an adequate supply, or a surplus of teachers still remains to be seen.

The task force committee concluded that the most important factor influencing Manitoba's teacher demand and supply in the upcoming years is **policy change**. Although exceedingly important, demographic projections can no longer be viewed as the only significant influence. A policy change (provincial or regional) can cause dramatic alterations to the teacher supply and demand environment, regardless of demographics.

8.1 Projection Modelling

In recognition of the need for a flexible model, the committee chose to keep its modelling formulations as simple and as understandable as possible. The creation of 20 "what-if scenarios," which manipulated the pupil-teacher ratio, permitted the committee to obtain a wide-angle view of the possibilities for each of the years 1990-2000. If and when significant policy changes are introduced to the educational system over the next decade, thus altering the pupil-teacher ratio, the reader will be able to shift to "a better-fit" scenario and evaluate the impact without having to rework the model. The committee hoped that by creating such a picture, this report would provide a basis for judging future teacher demand and required acquisition needs.

As presented on page 33, the task force committee chose the most likely scenario for the 1990s to include a declining student enrolment, a constant pupil-teacher ratio of 15.19, and an overall annual teacher withdrawal rate of 8%. This resulted in a projected annual requirement of approximately 1,000 teacher acquisitions.

Paramount to this decision, was an expected balancing of the positive and negative influencing factors over the decade. With this scenario, it was projected that by the year 1999-2000, Manitoba would have an annual teacher demand for 12,888 full-time equivalent teachers (130 less than the 1989-90 actual level), required acquisitions of 1,020 teachers (68 more than that which was required for 1989-90), and the need for 479 newly certified beginning teachers (20 less than that hired in 1989-90). Refer to Table 7 (page 31) and Table 12 (page 35) for details of the scenarios.

Prior to the completion of this study, Manitoba Education and Training was able to provide 1990-91 data on student enrolments and teacher counts. In order to test the validity of the committee's scenario selection, a comparison of the 1990-91 projections with 1990-91

actual data was conducted. Generally, it was found that the projections were very accurate (less than 1% error rate). Following are the comparison figures:

Table 18
Comparison of 1990-91
Actual and Projected Figures

	Student Enrolments	FTE Teachers	Pupil-Teacher Ratio
1990-91 Actual	197,586	13,137	15.04
1990-91 Projected	197,374	12,995	15.19
Difference	- 138	- 42	+ .15
% Difference	- 0.1%	- 0.3%	+ 0.9%

The fact that Manitoba was entering a recession in 1990-91, not yet experiencing its impact, was seen as a primary reason for a higher projected PTR, and a lower number of FTE teachers than which actually occurred. The task force committee unanimously agreed that their projections were statistically sound.

8.2 School Superintendents' Survey

Complementing the model projections were the results from the school superintendents' survey. In agreement with the projection model, superintendents expected provincial student enrolments to remain stable or to actually decline over the next decade, and that overall there would not be a shortage in the number of teachers required in the province. Concern was raised, however, that the availability and willingness of teachers to move into northern and rural areas of the province may cause a shortage for selected school divisions/districts. Some superintendents expressed an additional concern over the future availability of teachers in selected program areas (e.g., French immersion, Basic French, resource, music, special needs and Counselling).

In regard to the concern over the availability of French language teachers (the program area identified by most superintendents), the task force committee took note of a 1990 study conducted by The Bureau de l'Éducation Française, Manitoba Education and Training which at the macro-provincial level forecasted an immediate shortage of Français and Immersion teachers (until 1992-93) to be followed by a surplus (through to 1998-99). For the Basic French program, surpluses were projected for the next 10 years. Contained within the report was the warning that although surpluses were projected at the provincial level, serious shortages could easily occur within divisions or specialized teaching areas with the movement of only a few teachers. This warning echoes the concern raised by superintendents through the teacher supply and demand survey.

Supporting the model's projected acquisitions for the next decade, superintendents reported that the large majority of their new hires each year have been experienced teachers. Currently, most superintendents have not had the need to recruit from out-of-province, but for the future, many reported that they may have to do so for speciality program areas (e.g., French language).

Superintendents expressed a strong need and desire for division/district boards, universities, and Manitoba Education and Training to work closer together in partnership. Many superintendents stated that the province should devise "incentive packages" to encourage Manitoba teachers and university graduates to stay in Manitoba. It was noted that other provinces and U.S. states were providing salary/benefit/payback incentives; Manitoba should do likewise.

8.3 Teacher Supply and Demand - National and International

Upon completion of the provincial study, the task force committee examined the teacher supply and demand issue from national and international perspectives. This was done to place Manitoba's situation within a wider context and to permit greater understanding and evaluation.

On the national level, a recently published report by The Department of the Secretary of State of Canada, Profile of Higher Education in Canada (1990 edition), compared the employment status of education graduates to graduates from other fields. It reported that graduates from programs leading to regulated professions such as those in education and health fields, had the highest employment levels of all professions - both two years and five years after graduation (p.30), and that over 90% of graduates from education programs had jobs related to their field of study. These findings were very positive.

On an international level, an OECD (Organization for Economic Cooperation and Development) report, The Teacher Today (1990) found that in most developed countries (including Canada):

- there is a sense of profound dissatisfaction within the teaching field
- teachers feel the pressing demand for accountability
- the pursuit of quality has emerged as a general priority of educational policy
- following an era of declining student enrolments and a general surplus of teaching resources (1960-1987), problems of adequate teacher supply are re-emerging, especially in key subjects of the curriculum.

Obviously, Manitoba's situation and the concerns of our educators/ administrators are

not unique.

8.4 Major Conclusions and Recommendations

Utilizing the results from the projection models, school superintendents' survey, literature review, and the professional experience of task force members, the following conclusions and recommendations were made:

1. There will be a continuing strong demand for new teachers in Manitoba throughout the 1990s. The required acquisitions will continue, minimally, to match today's level. As such, it is recommended:

   That the level of provincial funding to universities be increased on an annual basis to maintain current enrolment levels within Bachelor of Education degree programs.

2. There are an extremely large number of external influencing factors which effect teacher supply and demand. Indeed, provincial and local policy changes can affect the issue as much as demographic population shifts. In order to respond to these factors in the most productive manner, it is recommended:

   That Manitoba Education and Training produce annual projections of provincial teacher demand.

3. There is currently a lack of centralized, reliable data on teachers across both the public and private sectors of Manitoba. In order to accommodate future review, it is recommended:

   That Manitoba Education and Training review the mandate, specifications, and contents of the existing teacher (Professional School Personnel) data base.

4. Over the past 5 to 10 years, there has been an increasing number of teachers who have been leaving the profession prematurely. Increasingly, *burn-out and stress* are reported as contributing factors. In order to address this phenomenon, it is recommended:

That Manitoba Education and Training, in consultation with Manitoba Teachers' Society, Manitoba Association of School Superintendents, and Manitoba Association of School Trustees, conduct a study of the relationship between the changing classroom environment and teacher supply and demand.

5. Delivery of education in northern and rural areas of the province is very sensitive to changes in the educational system. The loss of a single teacher in a specified area can disrupt an entire program. In order to address this, it is recommended:

That Manitoba Education and Training provide rural and northern school boards with additional funding to attract and retain certified teachers.

6. School divisions/districts in northern Manitoba and remote rural areas are continuing to have the greatest difficulties in recruiting teachers. In order to better fascilitate such, it is recommended:

That Manitoba Education and Training, in partnership with universities, ensure that teacher education programs provide students with experiences specifically related to rural and northern environments and that adequate funding be provided for this.

7. The supply and demand of teachers at the high school level is, out of necessity, related to the subject specialization of the available teaching force. In order to better accommodate potential shortages, it is recommended:

That school boards provide the necessary professional development for teachers to facilitate re-deployment to subject/program areas in which vacancies occur, and that incentive grants be provided to ensure teachers are retrained as required.

8. Manitoba school superintendents identified resource teaching and special needs as speciality areas most at risk to potential shortages. In order to prevent such an

occurrence, it is recommended:

> ***That Manitoba Education and Training, in collaboration with the universities, encourage teachers to specialize in resource, counselling, and special needs programs and that special opportunity bursaries be provided to teachers who choose to train in these specialty areas.***

9. Historically, Manitoba has introduced and offered special programs to encourage equal access to and opportunity in the teaching profession for all Manitobans. These programs are currently at risk, and as such, it is recommended:

> ***That the government-sponsored Access programs related to teacher education receive increased provincial funding.***

10. There continues to ba a low representation of minority groups within the teaching profession. In order to make the teaching profession representative of the student population, it is recommended:

> ***That Manitoba Education and Training, in partnership with the universities, work to increase the participation of aboriginal and visible minority people within teacher education programs.***

11. In performing its mandate, the task force found its research capacity to be limited. As there is a growing need to accommodate the public's increasing demand for more and better information, it is recommended:

> ***That Manitoba Education and Training establish and capitalize an Educational Research Council which would provide funds for research on educational issues deemed to be of the public's interest.***

APPENDICES

Appendix A

List of Canadian
Teacher Supply and Demand Studies

The following studies were examined for the Manitoba Teacher Supply and Demand study:

Alberta Education. (1988). Alberta Teacher Supply and Demand: Four-Year Forecast. Alberta: Planning Secretariat.

Alberta Education. (1990). A Snapshot of Teacher Supply and Demand. Alberta: Planning and Information Services Division.

British Columbia Research. (1985). Teacher Demand and Supply Forecasting Model. British Columbia: Educational Planning and Research.

Canadian Teachers' Federation. (1989). Projection of Elementary and Secondary Enrolment and the Teaching Force in Canada, 1987-88 to 2006-07. Ontario.

Forester, G. (1981). British Columbia Teacher Demand and Supply Projections: 1981-1990. British Columbia: Statistical Services.

Newfoundland and Labrador Department of Education. (1990). Toward 2000: Trends Report. Newfoundland: Program Evaluation, Research and Planning Section, Division of Evaluation and Research.

Smith, L. (1989). Perspectives on Teacher Supply and Demand in Ontario. Ontario: Ontario Ministry of Education.

Appendix B

Teacher Supply and Demand Definitions

Beginning Teachers

- Newly certified teachers who have just completed a university education program. Projections are calculated according to the formula:

$$\text{Beginning Teachers} = \text{Acquisitions} - \text{Returners} - \text{Others}$$

$$B_t = A_t - R_t - O_t$$

Full-Time Equivalent (FTE) Teachers

- Actual percent of teaching time is used to calculate the number of teachers (e.g., five full-time teachers and two part-time teachers - one with a 75% workload, the other with 40%, results in a total FTE of 6.15 teachers).

Projected Student Enrolments

- Based on retention rates and the Holt-Winters time series forecasting model. Conducted by Manitoba Education and Training's Schools Finance Branch.

Pupil-Teacher Ratios (PTRs)

- Calculated according to the formula:

$$\text{PTR} = \text{student enrolment} \div \text{FTE teachers}$$

Returning Teachers

- Number of teachers continuing in profession from one year to the next.

Teacher Acquisitions

- The number of teachers hired each year to fill empty teaching positions. Empty positions are created by teachers leaving current positions, plus/minus any newly created/lost positions.

$$\text{Teaching Force} = \text{Returning Teachers} + \text{Acquisitions}$$

$$\text{Acquisitions}_{(t)} = \text{Demand}_{(t)} + \text{Demand}_{(t-1)} + \text{Withdrawals}_{(t-1)}$$

$$A_t = D_t + D_{t-1} + W_{t-1}$$

Teacher Acquisition Rate

- Percent of teachers hired compared to number employed in previous year.

Acq. Rate = (new hires ÷ employed in previous year) X 100

Teacher Counts

- Manitoba Education and Training could provide reliable data for the past four years (i.e., 1986-90). All employed professional school personnel within the public sector (excluding superintendents and assistant superintendents) were tabulated according to FTE status.

Teacher Demand

- The required (or projected) number of teaching positions for a particular year. Teacher demand is calculated according to the formula:

Demand = student enrolment ÷ pupil-teacher ratio

Teacher Shortage

- When the potential (or real) supply falls short of the projected (or real) demand. A shortage occurs when there is a greater number of acquisitions required than there are available teachers.

Teacher Supply

- The number of teachers that are available to teach for a particular year. Teacher supply is comprised of:

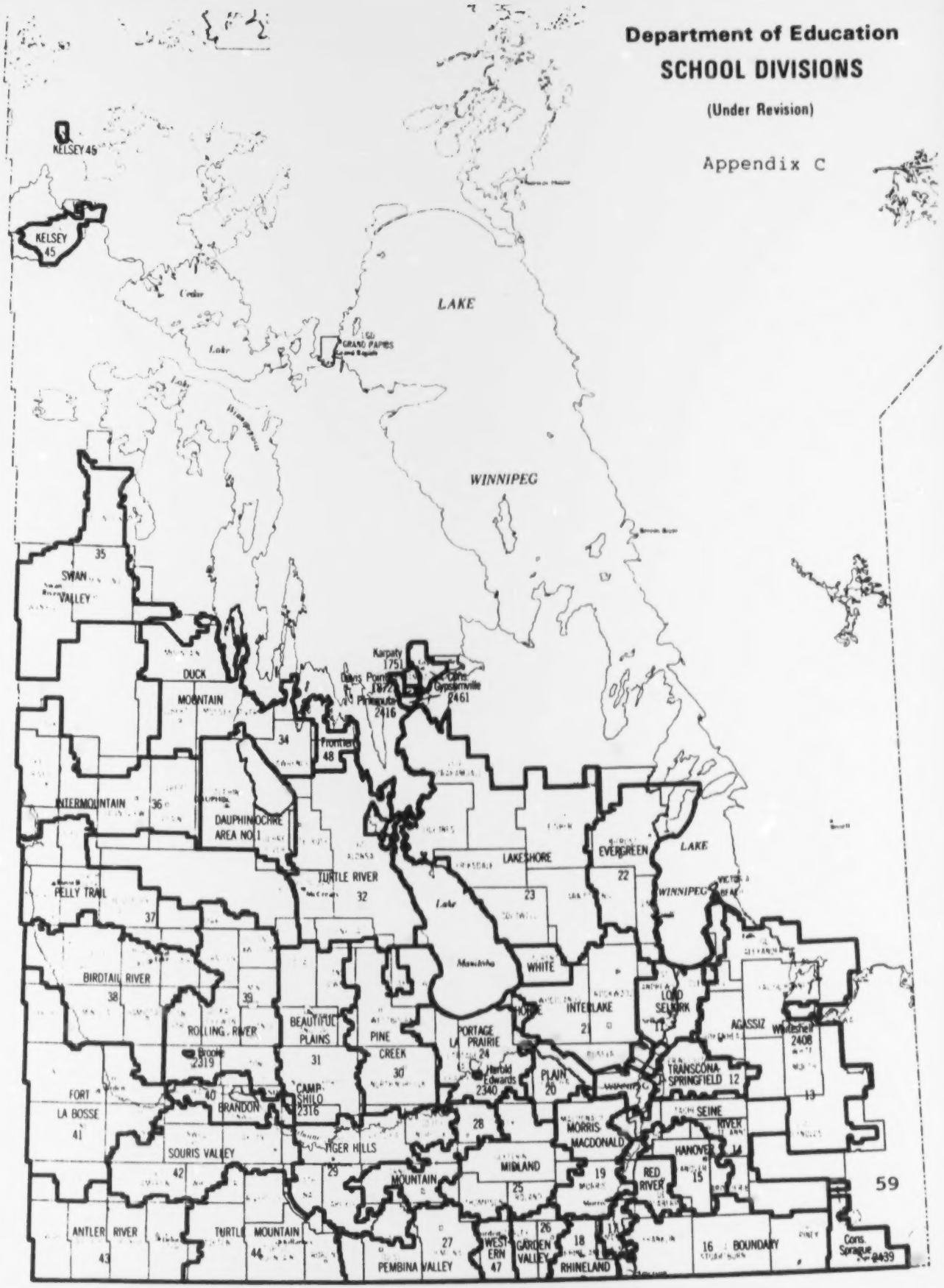
  - continuing teachers
  - new graduates from university education programs
  - teachers returning to the profession after an absence
  - teachers moving into Manitoba from out-of-province

Teacher Withdrawals

- The number of teachers that leave the profession between years. Composed of retirees, teachers who quit the profession, teachers on leave, teachers who move out-of-province, and so forth.

Teacher Withdrawal Rate

- Percent of teachers who leave between years. It is calculated by dividing the number of withdrawals by the total number of teachers of the previous year.



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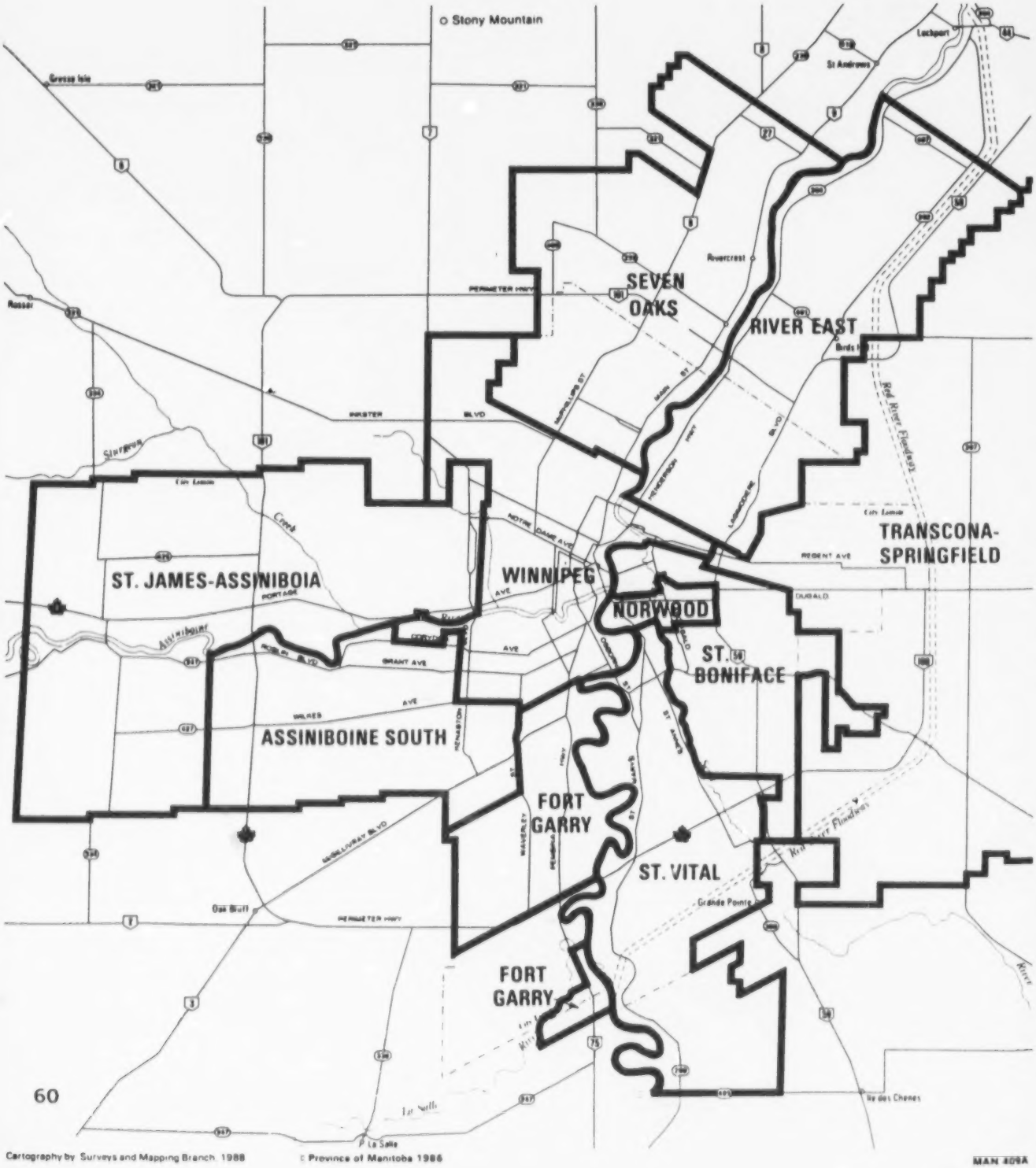
WINNIPEG SCHOOL DIVISIONS

(Under Revision)



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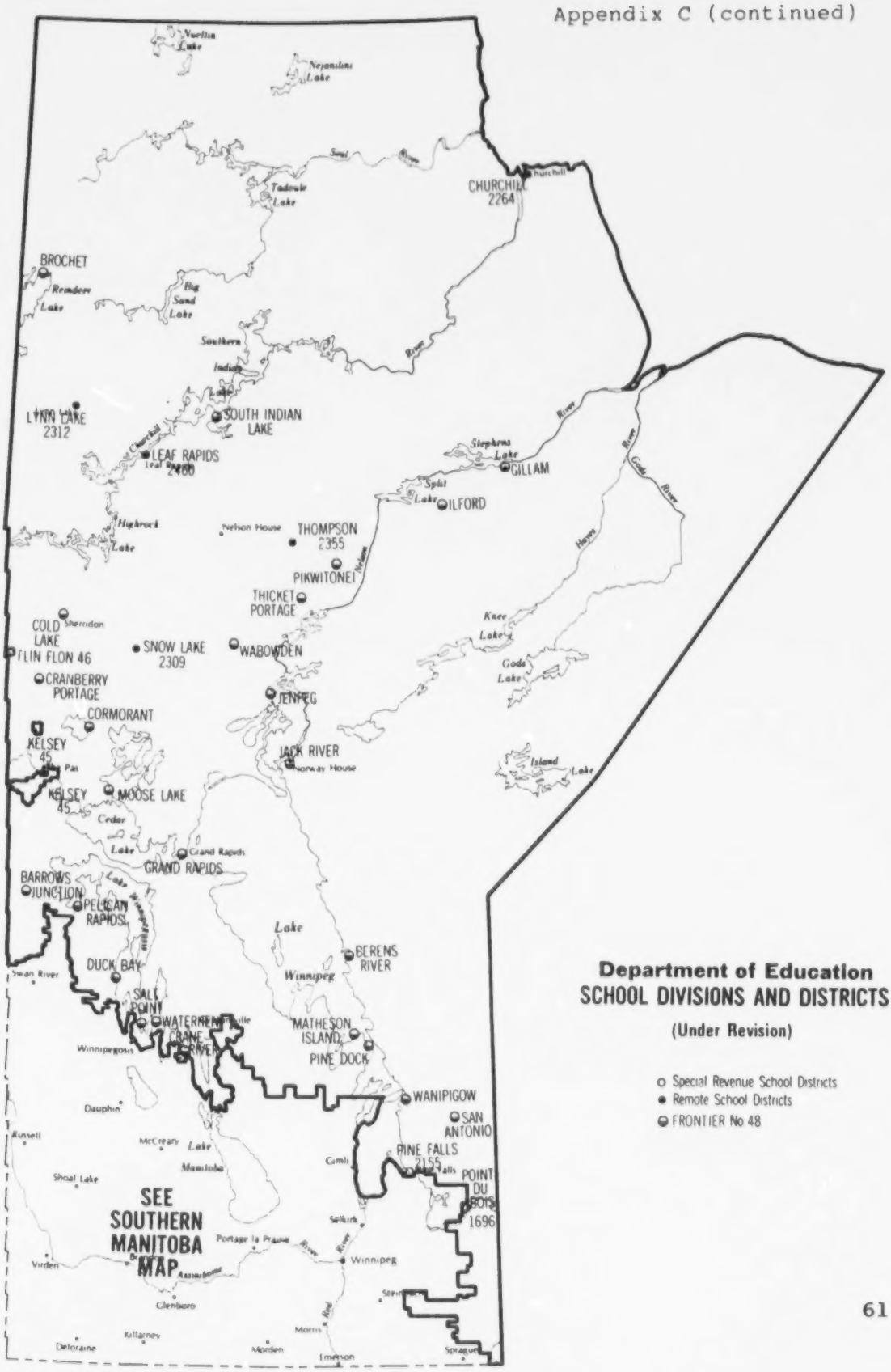

Department of Education
SCHOOL DIVISIONS AND DISTRICTS
(Under Revision)

- o Special Revenue School Districts
- • Remote School Districts
- ⊖ FRONTIER No 48

61

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Appendix D

Enrolment Forecasting at Manitoba Education and Training

The Schools Finance Branch produces enrolment forecasts for a publication entitled Public and Private Schools in Manitoba, Enrolment Estimates. The Estimated Enrolment System, which contains 10 years of historical enrolment data and five years of estimated enrolment data, is used to produce this report.

The first step in the process is to update historical data in the system. The most recent year's enrolments for public and private schools, as at September 30, are loaded into the system from actual data. Historical enrolments from the most distant year are removed.

The system maintains retention rates for Public School Divisions/Districts for Grades 2 to 12. Historical retention rates are used in the calculation of retention rates for the five estimated years, Grades 2 to 12. Estimates for special education, nursery, kindergarten and Grade 1 enrolment are produced outside the system. A time series analysis method called the Holt-Winters forecasting model (McClave & Benson, 1985; Chatfield, 1984), based on historical enrolment, is used for this purpose. Total enrolment for all divisions is also estimated using this methodology.

Enrolment estimates for the four grade levels specified above are then entered into the system for each public school division/district. The 'Initialize Estimate' function is implemented and the system calculates enrolment for Grades 2 to 12 based on Grade 1 estimates and retention rates derived from historical data. A printout of the estimates for all divisions/districts is produced and total enrolment for each is compared to division totals derived using the Holt-Winters forecasting model. Adjustments to enrolments for Grades 2 to 12 are entered into the system to reconcile system totals to totals produced by the forecasting model.

The Estimated Enrolment System does not utilize retention rates for private school enrolments. Total enrolment estimates for all private schools is derived using the Holt-Winters forecasting methodology. Adjustments to enrolment for all grade levels are entered into the system to arrive at the forecasted totals.

Total provincial enrolment estimates represent the grand total of all estimates calculated above.

In order to produce total provincial enrolment estimates for an additional five years for a total of ten estimated years, the same procedures are repeated. Due to time constraints, plus the fact that Manitoba Education and Training does not use 10-year projections, an alternate method was used for this teacher supply

and demand study. Total historical enrolment for 1977 to 1989 was combined with the estimates for 1990 to 1994 to be used as "historical data" to derive estimates for 1995 to 1999. The Holt-Winters forecasting model was then used to calculate the estimates.

Prepared by: Manitoba Education and Training
Schools Finance Branch

Appendix E

Manitoba Public School Enrolments
Historical and Projected

Year	Enrolment
1973/74	233,901
1974/75	229,875
1975/76	227,830
1976/77	225,186
1977/78	221,212
1978/79	215,440
1979/80	208,631
1980/81	204,274
1981/82	200,808
1982/83	200,521
1983/84	199,746
1984/85	199,480
1985/86	198,961
1986/87	199,037
1987/88	199,434
1988/89	198,782
1989/90	197,724
Projected:	
1990/91	197,374
1991/92	197,193
1992/93	196,981
1993/94	196,782
1994/95	196,627
1995/96	196,446
1996/97	196,285
1997/98	196,104
1998/99	195,924
1999/00	195,744

Sources: Manitoba Education and Training Schools Finance Branch
and
Planning, Research and Policy Coordination Branch

Appendix F

Projected Teacher Withdrawal by Analyzing Retirement Trends

(base - 35% of leavers are retirements)

By year 2000, projections are:

2,001 teachers to be aged ≥ 60
2,180 teachers to be aged 55-59
3,029 teachers to be 50-54

Thus 4,181 teachers will be at/past retirement age.

Early retirements - Over the past number of years, on average 30% of those aged 50-54 take retirement deferrals.

30% of 3,029 = 909

Continued employment - On average, 15% of teachers eligible to retire at age 55, do not retire.

15% of 4,181 = 627

Expectation - 4,181 + 909 - 627 = 4,463 retirements over the next 10 years.

Assumption: 35% of teachers who leave the teaching profession do so by retirement.

Thus, expect 4463 ÷ .35 = 12,751 leavers over the next 10 years.

Part-time Adjustment: Over the past number of years, on average 12% of teachers are part-time.

12,751 - (12,751 X .12) ÷ 2 = 11,986 FTE teachers

Therefore, over the next 10 years it is projected that the public school system will lose 11,986 FTE teachers (or approximately 10% per year).

Calculated by: Manitoba Education and Training
Planning, Research and Policy Coordination Branch

Appendix G

Public School Enrolment Projections by Region

Year	Greater Winnipeg	Rural	North	Total Province
1986/87	106,363	76,912	15,783	199,037
1987/88	107,151	76,776	15,463	199,434
1988/89	107,312	76,155	15,315	198,782
1989/90	107,034	75,637	15,053	197,724
1990/91	107,015	75,512	14,847	197,374
1991/92	107,039	75,385	14,769	197,193
1992/93	107,065	75,235	14,681	196,981
1993/94	107,089	75,102	14,591	196,782
1994/95	107,139	74,984	14,504	196,627
1995/96				196,446
1996/97				196,285
1997/98				196,104
1998/99				195,924
1999/00				195,744
between 89/90 and 94/95	+ 0.10% (+ 105)	- 0.86% (- 653)	- 3.65% (- 549)	- 0.55% (-1097)

Source: Manitoba Education and Training
Schools Finance Branch

Appendix H

Projected Teacher Demand by Region (FTE)
(Public Schools only)

Demand = Student Enrolment ÷ Pupil-teacher Ratio

Greater Winnipeg

	Enrolment	FTE Teachers Count	PTR	Constant PTR Demand	PTR	Increasing PTR Demand	PTR	Decreasing PTR Demand	PTR	Growing PTR Demand	PTR
1988/89	107,312	7126	15.06								
1989/90	107,034	7240	14.78								
1990/91	107,015			7241	14.78	7144	14.98	7340	14.58	7144	14.98
1991/92	107,039			7242	14.38	7051	15.18	7344	14.38	7051	15.18
1992/93	107,065			7244	14.78	6961	15.38	7550	14.18	6961	15.38
1993/94	107,089			7246	14.78	6873	15.58	7660	13.98	6873	15.58
1994/95	107,139			7249	14.78	6790	15.78	7775	13.78	6877	15.58

Rural Manitoba

	Enrolment	FTE Teachers Count	PTR	Constant PTR Demand	PTR	Increasing PTR Demand	PTR	Decreasing PTR Demand	PTR	Growing PTR Demand	PTR
1988/89	76,155	4681	16.27								
1989/90	75,637	4737	15.97								
1990/91	75,512			4728	15.97	4670	16.17	4788	15.77	4670	16.17
1991/92	75,385			4720	15.97	4605	16.37	4842	15.57	4605	16.37
1992/93	75,235			4711	15.97	4540	16.57	4895	15.37	4540	16.57
1993/94	75,102			4703	15.97	4478	16.77	4951	15.17	4478	16.77
1994/95	74,984			4695	15.97	4419	16.97	5009	14.97	4471	16.77

North Manitoba

	Enrolment	FTE Teachers Count	PTR	Constant PTR Demand	PTR	Increasing PTR Demand	PTR	Decreasing PTR Demand	PTR	Growing PTR Demand	PTR
1988/89	15,315	1023	14.96								
1989/90	15,053	1029	14.63								
1990/91	14,847			1015	14.63	1001	14.83	1029	14.43	1001	14.83
1991/92	14,769			1010	14.63	983	15.03	1038	14.23	983	15.03
1992/93	14,681			1003	14.63	964	15.23	1046	14.03	964	15.23
1993/94	14,591			997	14.63	946	15.43	1055	13.83	946	15.43
1994/95	14,504			991	14.63	928	15.63	1064	13.63	940	15.43

FTE = Full-Time Equivalent

Appendix I

Projected Acquisitions (FTE) by Region

$$\text{Acquisitions} = \text{Demand}_{t} - \text{Demand}_{t-1} + \text{Withdrawals}_{t-1}$$

GREATER WINNIPEG PROJECTIONS

CONSTANT PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**7126**	-	-	-	-	-	-	-	-	-
1989/90	**7240**	**+114**	-	-	-	-	-	-	-	-
1990/91	7241	+ 1	434	435	579	580	724	725	869	870
1991/92	7242	+ 1	434	435	579	580	724	725	869	870
1992/93	7243	+ 1	435	436	579	580	724	725	869	870
1993/94	7246	+ 3	435	438	579	582	724	727	870	873
1994/95	7249	+ 3	435	438	580	583	725	728	870	873

INCREASING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**7126**	-	-	-	-	-	-	-	-	-
1989/90	**7240**	**+114**	-	-	-	-	-	-	-	-
1990/91	7144	- 96	434	338	579	483	724	628	869	773
1991/92	7051	- 93	429	336	572	479	714	621	857	764
1992/93	6961	- 90	423	333	564	474	705	615	846	756
1993/94	6873	- 88	418	330	557	469	696	608	835	747
1994/95	6790	- 83	412	329	550	467	687	604	825	742

DECREASING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**7126**	-	-	-	-	-	-	-	-	-
1989/90	**7240**	**+114**	-	-	-	-	-	-	-	-
1990/91	7340	+100	434	534	579	679	724	824	869	969
1991/92	7444	+104	440	544	587	691	734	838	881	985
1992/93	7550	+106	447	553	596	702	744	850	893	999
1993/94	7660	+110	453	563	604	714	755	865	906	1016
1994/95	7775	+115	460	575	613	728	766	881	919	1084

GROWING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**7126**	-	-	-	-	-	-	-	-	-
1989/90	**7240**	**+114**	-	-	-	-	-	-	-	-
1990/91	7144	- 96	434	338	579	483	724	628	869	773
1991/92	7051	- 93	429	336	572	479	714	621	857	764
1992/93	6961	- 90	423	333	564	474	705	615	846	756
1993/94	6873	- 88	418	330	557	469	696	608	835	747
1994/95	6877	+ 4	412	416	550	554	687	691	825	829

FTE = Full-Time Equivalent

Appendix I (continued)

RURAL MANITOBA PROJECTIONS

CONSTANT PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**4681**	-	-	-	-	-	-	-	-	-
1989/90	**4737**	**+ 56**	-	-	-	-	-	-	-	-
1990/91	4728	- 9	284	275	379	370	474	465	568	559
1991/92	4720	- 8	284	276	378	370	473	465	567	559
1992/93	4711	- 9	283	274	378	369	472	463	566	557
1993/94	4640	- 71	283	212	377	306	471	400	565	494
1994/95	4633	- 7	278	271	371	364	464	457	557	550

INCREASING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**4681**	-	-	-	-	-	-	-	-	-
1989/90	**4737**	**+ 56**	-	-	-	-	-	-	-	-
1990/91	4670	- 67	284	217	379	312	474	407	568	501
1991/92	4605	- 65	280	215	374	309	467	402	560	495
1992/93	4540	- 65	276	211	368	303	461	396	553	488
1993/94	4419	-121	272	151	363	242	454	333	545	424
1994/95	4360	- 59	265	206	354	295	442	383	530	471

DECREASING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**4681**	-	-	-	-	-	-	-	-	-
1989/90	**4737**	**+ 56**	-	-	-	-	-	-	-	-
1990/91	4788	+ 51	284	335	379	430	474	525	568	619
1991/92	4842	+ 54	287	341	383	437	479	533	575	629
1992/93	4895	+ 53	291	344	387	440	484	537	581	634
1993/94	4885	- 10	294	284	392	382	490	480	587	577
1994/95	4942	+ 57	293	350	391	448	489	546	586	643

GROWING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**4681**	-	-	-	-	-	-	-	-	-
1989/90	**4737**	**+ 56**	-	-	-	-	-	-	-	-
1990/91	4670	- 67	284	217	379	312	474	407	568	501
1991/92	4605	- 65	280	215	374	309	467	402	560	495
1992/93	4540	- 65	276	211	368	303	461	396	553	488
1993/94	4478	- 62	272	210	363	301	454	392	545	483
1994/95	4471	- 7	269	262	358	351	448	441	537	530

FTE = Full-time Equivalent

Appendix I (continued)

NORTH MANITOBA PROJECTIONS

CONSTANT PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**1023**	-	-	-	-	-	-	-	-	-
1989/90	**1029**	+ 6	-	-	-	-	-	-	-	-
1990/91	1015	- 14	62	48	82	68	103	89	123	109
1991/92	1010	- 5	61	56	81	76	102	97	122	117
1992/93	1003	- 7	61	54	81	74	101	94	121	114
1993/94	997	- 6	60	54	80	74	100	94	120	114
1994/95	991	- 6	60	54	79	73	100	94	120	114

INCREASING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**1023**	-	-	-	-	-	-	-	-	-
1989/90	**1029**	+ 6	-	-	-	-	-	-	-	-
1990/91	1001	- 28	62	34	82	54	103	75	123	95
1991/92	983	- 18	60	42	80	62	100	82	120	102
1992/93	964	- 19	59	40	79	60	98	79	118	99
1993/94	946	- 18	58	40	77	59	96	78	116	98
1994/95	928	- 18	57	39	76	58	95	77	114	96

DECREASING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**1023**	-	-	-	-	-	-	-	-	-
1989/90	**1029**	+ 6	-	-	-	-	-	-	-	-
1990/91	1029	-	62	62	82	82	103	103	123	123
1991/92	1038	+ 9	62	71	82	91	103	112	123	132
1992/93	1046	+ 8	62	70	83	91	104	112	125	133
1993/94	1055	+ 9	63	72	84	93	105	114	126	135
1994/95	1064	+ 9	63	72	84	93	106	115	127	136

GROWING PTR

	Demand	net new positions	6% wthd	req. acquis	8% wthd	req. acquis	10% wthd	req. acquis	12% wthd	req. acquis
1988/89	**1023**	-	-	-	-	-	-	-	-	-
1989/90	**1029**	+ 6	-	-	-	-	-	-	-	-
1990/91	1001	- 28	62	34	82	54	103	75	123	95
1991/92	983	- 18	60	42	80	62	100	82	120	102
1992/93	964	- 19	59	40	79	60	98	79	118	99
1993/94	946	- 18	58	40	77	59	96	78	116	98
1994/95	940	- 6	57	51	76	70	95	89	114	108

FTE = Full-time Equivalent

Manitoba

Education | Planning and Research

221 — 1200 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0T5
Fax: 945-0194

June 25, 1990

TO: All Superintendents

FROM: Teacher Supply and Demand Task Force

RE: TEACHER SUPPLY AND DEMAND TASK SURVEY
RETURN DATE - JULY 15, 1990

We are asking you as Superintendent to complete the attached survey on supply and demand of teachers in your division, and return it to us, either by fax or mail by July 15, 1990.

We are doing this survey as part of our inquiry into concerns voiced by Manitoba Association of School Superintendents (MASS), Manitoba Association of School Trustees (MAST), Manitoba Teachers' Society (MTS), the Faculties of Education and Manitoba Education and Training on the current and future availability of teachers in Manitoba.

In January, 1990, the Minister of Education and Training established a Teacher Supply and Demand Task Force to address the possible shortage of teachers over the next few years. The mandate of the Task Force is to investigate the magnitude of this possible shortage, examine possible strategies to deal with it and to recommend an action plan to the Deputy Minister of Education and Training.

The Task Force is chaired by Dr. Robin Enns, Dean of the Faculty of Education, Brandon University and is comprised of senior representatives of the above agencies. Technical support is provided by the Planning and Research Branch, Manitoba Education and Training.

If you have any questions or concerns, please feel free to call Jean Britton or John Didyk at the Planning and Research Branch (945-6176).

Thank you for your cooperation and for taking the time to respond to the survey.

Sincerely,

Robin Enns

Robin Enns, Ph.D.
Chairperson

enc.

Manitoba

Éducation

Planification et recherche

1200 avenue Portage
pièce 221
Winnipeg (Manitoba) CANADA
R3G 0T5

le 28 juin 1990.
Télécopieur : 945-0194

Destinataires : Directeurs généraux
Expéditeur : Groupe de travail sur l'offre et la demande en enseignants

Objet : Enquête sur l'offre et la demande en enseignants

Madame, Monsieur,

En tout que Directeur général, vous êtes priés de compléter le formulaire ci-joint d'enquête sur l'offre et la demande en enseignants au sein de votre division et de nous le remettre soit par télécopieur ou par courier au plus tard le 15 juillet 1990.

Ce sondage fait partie d'une enquête qui étudie le préoccupations de l'Association manitobaine des directeurs généraux des écoles, de l'Association des commissaires d'école due Manitoba, la Manitoba Teachers' Society, des Facultés d'éducation ainse que du ministère l'Éducation et de la Formation professionnelle du Manitoba sur les ressources actuelles et futures de personnel enseignant au Manitoba.

En janvier 1990, le Ministre de l'Education et de la formation professionnelle a créé le Groupe de travail sur l'offre et la demande en enseignants, lequel devait se pencher sur le problème de la possibilité d'une pénurie d'enseignants durant les années à venir. Le Groupe de travail a pour mandat de déterminer l'étendue de cette pénurie possible, d'étudier les moyens de la contrecarrer et de recommamder un plan d'action au sous-ministre de l'Éducation et de la formation professionnelle.

Le group de travail est placé sous la présidence de M. Robin Enns, doyen de la Faculté d'éducation de l'Université de Brandon et est composé de membres représentant les organismes mentionnés plus haut.

Veuillez référer toute question ou tout problème ayant trait à cette enquête à Jean Britton ou à John Didyk de la Direction de la planification et de la recherche (n° de téléphone: 945-6176).

Avec mes remerciements anticipés pour votre coopération à la conduite de cette enquête, je vous prie d'agréer, Madame, Monsieur l'expression de mes sentiments les meilleurs.

Robin Enns

Robin Enns, Ph.D.
Président
Groupe de travail sur l'offre
et la demande en

Appendix K

Teacher Supply and Demand Survey for
Public School Superintendents

Division: _____

Respondent: _____ Position: _____

1. Attached (in Appendix A) you will find a copy of the student enrolment projections that the Schools' Finance Branch has calculated for your division.

   a) Do these enrolment projections reflect your division's future student population?

   ___ yes ___ no [If yes, go to part 1.c]

   b) If no, where and how do you foresee a difference? [tick the appropriate box(es)]

	higher	lower
elementary		
secondary		

   c) In order of priority, please identify those factors which may potentially increase or decrease these enrolment projections (eg. urban/rural location of students, grade distribution, program offerings, etc).

factors causing increases	factors causing decreases
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____

2. The distribution of your division's current professional school personnel, as of September 30, 1989, is attached in Appendix B. For each category, please project the total number of full-time equivalent (FTE) staff that you think will be required for each of the next 5 years. [PLEASE WRITE ON THE ATTACHED APPENDIX B LIST].

3. a) For each of the preceding 4 academic years and the upcoming 1990/91 academic year, how many teaching vacancies did your division have to fill? In addition, what were the reason for these vacancies? Please write the appropriate numbers in the categories below:

Reason for Vacancies	1986-1987	1987-1988	1988-1989	1989-1990	1990-1991
retirements	___	___	___	___	___
moved out of division	___	___	___	___	___
moved out of province	___	___	___	___	___
changed careers	___	___	___	___	___
terminations	___	___	___	___	___
new position of division	___	___	___	___	___
other: _____	___	___	___	___	___
TOTALS	___	___	___	___	___

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Appendix K (continued)

b) For each of the next 5 academic years (1991/92- 1995/96), how many teaching vacancies do you expect to fill?

1991/92 ---> _____

1992/93 ---> _____

1993/94 ---> _____

1994/95 ---> _____

1995/96 ---> _____

4. Do you expect teacher retirements to be higher than usual in the next 10 years?

1990/1991 - 1994/1995 ____ yes ____ no

1995/1996 - 1999/2000 ____ yes ____ no

If yes, what explains this potential increase [ie, aging staff, early retirements, etc]?

_____

_____

QUESTIONS 5 - 10 WILL BE ASKING FOR INFORMATION RELATED TO TEACHING VACANCIES FOR THE 1990/91 ACADEMIC YEAR.

5. For the positions you have filled for 1990/91 (please refer to the total number you listed in the squared box in question 3.a.), could you please indicate their distribution according to the following categories.

_____	TOTAL

number

_____ new graduates from a Manitoba university

_____ new graduates from a university of another province

_____ new graduates from a university of another country

_____ experienced teachers from another Manitoba division

_____ experienced teachers from a Manitoba private school

_____ experienced teachers from another province

_____ experienced teachers from another country

_____ experienced teachers who have been out of teaching and are now returning to the profession

_____ other: _____

6. a) For the 1990/91 school year has there been an "adequate number" of applicants available to your division?

___ yes, in all subject matters

___ yes, in some subject matters

___ no

b) Do you think that you have had a "choice of good candidates"?

___ yes, in all subject matters

___ yes, in some subject matters

___ no

Appendix K (continued)

c) Based on your experiences from previous years, in what capacities/ subject matters/skills/levels are you experiencing the greatest need?

	greater than usual	same	less than usual
Subject Matters:			
Language Arts	___	___	___
French Immersion	___	___	___
Français	___	___	___
Core French	___	___	___
Heritage Languages	___	___	___
Mathematics	___	___	___
Sciences	___	___	___
Vocational	___	___	___
Art	___	___	___
Music	___	___	___
Other: _____	___	___	___
Skills:			
Educ.Technology/Distance Educ.	___	___	___
Working in northern/rural settings.	___	___	___
Multi-graded teaching	___	___	___
Teaching in a cross-cultural setting	___	___	___
Other: _____	___	___	___
Capacities:			
Administrators	___	___	___
Counselling	___	___	___
Special Needs	___	___	___
Resource teaching	___	___	___
Specialists (eg, clinicians)	___	___	___
Other: _____	___	___	___
Levels:			
Early Years K-4	___	___	___
Middle Years 5-8	___	___	___
Senior Years 9-12	___	___	___

d) From the items in (c) above, please list in order of priority those capacities/subject matters/skills/levels that you are experiencing the greatest difficulty in filling.

1. _____
2. _____
3. _____
4. _____
5. _____

7. a) Is your division experiencing a need to recruit a greater number of teachers from out-of-province?

___ yes ___ no. If yes, why?_____

_____

b) Do you foresee your division as having an increased need to go outside the province in the future?

___ yes ___ no. Why or why not?_____

_____

8. In recent years, is recruiting teachers costing your division more time and money?

Increased time ___ yes ___ no

Increased costs ___ yes ___ no

If yes, what are the primary reasons for this? _____

_____

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Appendix K (continued)

9. Beyond the "usual" methods of local and provincial advertisements, could you please list other methods you utilize to reach potential candidates? For each, could you describe if it has been successful or not.

	Method	Success
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

10. Are you experiencing a teacher shortage in your division now?

____ yes ____ no

If yes, how are you dealing with this problem, beyond recruiting new teachers? (eg, combining classes, cutting programs, combining teaching responsibilities, etc.)

_____

_____

_____

_____

11. What provincial strategies could the Department of Education and Training adopt to better address Division/Province Teacher Supply and Demand needs?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR TAKING THE TIME TO RESPOND. PLEASE RETURN BY JULY 15 TO:

Planning and Research Branch
221 - 1200 Portage Avenue
Winnipeg, Manitoba R3G 0T5
FAX NUMBER 945-0194

Appendix K (continued)

Formulaire d'enquete sur l'offre de la Demande d'enseignants destiné aux directeurs généraux des écoles publiques

Division :_____

Soumis par :_____

Poste occupé :_____

1. L'annexe A ci-jointe indique les inscriptions scolaires de votre division telles que projetées par la Direction des finances scolaires.

   a) Est-ce-que ces projections représentent la population scolaire anticipée dans votre division?

   ___oui ___non (dans l'affirmative, passez à la question 1.c)

   b) Dans la négative, où envisagez-vous une différence? cochez la(ies) case(s) appropriée(s).

	plus	moins
élémentaire		
secondaire		

   c) Veuillez indiquer, en fonction de leur importance, les facteurs pouvant entraîner une augmentation ou une diminution par rapport à ces projections (disparité rurale/urbaine de la population scolaire, niveaux scolaires, disponibilité des programmes etc...)

Facteurs pouvant causer une augmentation	Facteurs pouvant causer une diminution
1._____	1._____
2._____	2._____
3._____	3._____
4._____	4._____

2. La répartition du personnel professionnel de votre division, telle qu'elle était au 30 septembre 1989, figure à l'annexe B. Veuillez indiquer, pour chaque catégorie, le nombre d'employés dont vous pensez avoir besoin durant les cinq prochaines années. (RÉPONDRE DIRECTEMENT SUR LA LISTE FOURNIE)

3. a) Au cours des cinq années à partir de 1985-1986 à 1990-91, combien de postes <u>vacants</u> ont du être comblés dans votre division en précisant les raisons pour ces vacances.

Raisons	1986-1987	1987-1988	1988-1989	1989-1990	1990-1991
Retraité	___	___	___	___	___
Muté hors de la division	___	___	___	___	___
Muté hors de la province	___	___	___	___	___
Changé de carrière	___	___	___	___	___
Cougédié	___	___	___	___	___
Nouveau poste divisionnaire	___	___	___	___	___
Autres	___	___	___	___	___
TOTAL	___	___	___	___	___

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Appendix K (continued)

b) Durant les cinq prochaines années (1991/92 - 1995/96), combien de postes vacants pensez-vous avoir à combler?

1991-1992 _____

1992-1993 _____

1993-1994 _____

1994-1995 _____

1995-1996 _____

4. Vous attendez-vous à un taux inaccoutumé de départs du à la retraité parmi les enseignants durant les dix prochaines années?

1990-1991 - 1994-1995 _____ oui _____ non

1995-1996 - 1999-2000 _____ oui _____ non

Dans l'affirmative, quelles en sont les raisons (âge du personnel, retraite prématurée etc...)?

_____

_____

LES QUESTIONS 5 À 10 SONT DESTINÉES A FOURNIR DES RENSEIGNEMENTS SUR LES POSTES RENDUS VACANTS POUR L'ANNÉE SCOLAIRE 1990-1991

5. Pour chacune des catégories suivantes, veuillez indiquer le nombre de postes vacants comblés pour l'année 1990-1991.

Nombre

_____ nouveaux diplômés d'une université du Manitoba

_____ nouveaux diplômés d'une université d'une autre province

_____ nouveaux diplômés d'une université d'un autre pays

_____ enseignants en activité d'une autre division manitobaine

_____ enseignants en activité d'une école privée du Manitoba

_____ enseignants en activité d'une autre province

_____ enseignants en activité d'un autre pays

_____ enseignants ayant cessé leur activité revenant à la profession

_____ autres:_____

6. a) Pensez-vous disposer d'un nombre "adéquat" de candidats à l'enseignement pour votre division pour l'année scolaire 1990-1991.

___ oui, dans toutes les spécialités/matières

___ oui, dans certaines matières

___ non

b) Pensez-vous avoir eu un choix de "bons candidats"?

___ oui, dans toutes les spécialités/matières

___ oui, dans certaines matières

___ non

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Appendix K (continued)

c) En fonction de vos expériences autérieures quels sont les domaines, les spécialités, les habiletés où les besoins qui se font les plus sentir?

	besoin plus que normal	besoin normal	besoin moins que normal
Domaines:			
Anglais	____	____	____
Immersion française	____	____	____
Français	____	____	____
Français de base	____	____	____
Langues ancestrales	____	____	____
Mathématiques	____	____	____
Sciences naturelles	____	____	____
Éducation professionnelle	____	____	____
Arts	____	____	____
Musique	____	____	____
Autres : _____	____	____	____
Habiletés:			
Éducation technologique/ Éducation à distance	____	____	____
Travail dans le Nord/en rurale	____	____	____
Enseignement de niveaux multiples.	____	____	____
Enseignement dans un contexte multiculturel.	____	____	____
Autres: _____	____	____	____
Spécialisation:			
Administrateurs	____	____	____
Orientation	____	____	____
Enfance en difficulté	____	____	____
Orthopédagogues	____	____	____
Spécialistes (ex: cliniciens)	____	____	____
Autres: _____	____	____	____
Niveaux:			
Maternelle à 4e	____	____	____
5e à 8e	____	____	____
9e à 12e	____	____	____

d) Veuillez indiquer, selon leur importance, les domaines/habiletés/ les spécialisations/les niveaux pour lesquels les difficultés de recrutement sont les plus grandes?

1. _____
2. _____
3. _____
4. _____
5. _____

7. a) Votre division a-t-elle à recruter un nombre croissant d'enseignants de l'extérieur de la province?

____ oui ____ non Donnez les raisons: _____

_____

b) Votre division aura-t-elle à augmenter son recrutement à l'extérieur de la province?

____ oui ____ non Donnez les raisons: _____

_____

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Appendix K (continued)

8. Durant les dernières années, le recrutement a-t-il entraîné des dépenses monétaires et de temps accrues?

Temps supplémentaire ___ oui ___ non

Coûts supplémentaires ___ oui ___ non

Dans l'affirmative, veuillez en donner les raisons:_____

_____

9. Quelles méthodes, autres que les méthodes habituelles d'offre d'emploi à l'échelle locale ou provinciale, avez-vous utilisées pour recruter des candidats possibles? Pour chaque méthode, indiquez le résultat obtenu.

Méthode	Résultat
1._____	_____
2._____	_____
3._____	_____
4._____	_____
5._____	_____

10. Votre division connaît-elle une pénurie d'enseignants à l'heure actuelle?

____ oui ____ non

Dans l'affirmative, quelles mesures avez-vous adoptées pour faire face à ce problème sans compter le recrutement de nouveaux enseignants? (ex : jumelage de classes, coupure de programmes, augmentation de la charge des enseignants etc...)

_____

_____

_____

_____

11. Selon vous, que devrait faire le ministère de l'Éducation et de la Formation professionnelle pour faire face au problème de l'offre et de la demande d'enseignants au niveau divisionnaire et provincial?

_____

_____

_____

_____

_____

MERCI D'AVOIR PRIS LE TEMPS DE REMPLIR CE FORMULAIRE. VEUILLEZ le RETOURNER À:

PLANIFICATION ET RECHERCHE
1 200, avenue Portage
Bureau 221
Winnipeg (Manitoba)
R3G OT5
Télécopieur : 945-0194

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Example of APPENDIX .A. attached to Superintendents Survey

PSF8230 - JUN 15/89

PROVINCIAL SUMMARY - PUBLIC AND PRIVATE SCHOOLS
ENROLMENT AS OF SEPTEMBER 30

	ACTUAL										ESTIMATE				
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
SPECIAL EDUCATION	2,888	3,159	3,368	3,118	3,163	2,945	2,803	2,488	2,387	2,003	2,045	2,067	2,028	1,991	1,976
N	1,748	1,858	1,813	1,929	2,050	2,080	2,320	2,199	2,252	2,588	2,583	2,566	2,550	2,536	2,522
K	14,991	14,771	14,484	14,401	14,511	14,778	14,883	15,213	15,204	15,391	15,742	15,598	15,478	15,340	15,228
I	16,475	16,637	16,484	16,062	15,805	15,795	16,121	16,168	16,292	16,319	16,395	16,266	16,209	16,165	16,126
II	16,029	15,668	15,798	15,822	15,394	15,086	15,028	15,316	15,302	15,455	15,535	15,530	15,522	15,641	15,581
III	16,647	15,716	15,535	15,638	15,593	15,251	15,043	14,961	15,145	15,131	15,312	15,349	15,297	15,421	15,454
IV	16,551	16,262	15,540	15,461	15,525	15,530	15,115	14,963	14,897	15,044	15,120	15,229	15,237	15,142	15,260
V	16,067	16,289	16,044	15,623	15,338	15,475	15,503	15,157	14,935	14,847	15,081	15,087	15,247	15,223	15,195
VI	15,689	15,822	16,190	15,943	15,479	15,319	15,391	15,499	15,079	14,834	14,845	14,986	15,044	15,187	15,238
VII	16,415	16,073	16,348	16,875	16,561	16,089	15,943	15,915	15,990	15,671	15,327	15,223	15,477	15,475	15,508
VIII	16,739	15,901	15,575	15,903	16,366	16,193	15,763	15,723	15,756	15,733	15,498	15,240	15,160	15,339	15,387
ELEMENTARY SUBTOTAL	150,239	148,156	147,179	146,775	145,785	144,541	143,913	143,602	143,239	143,016	143,483	143,141	143,249	143,460	143,475
IX	17,662	16,199	15,419	15,546	15,914	16,508	16,289	15,923	15,986	15,962	16,006	15,882	15,508	15,535	15,686
X	17,888	17,393	16,157	16,118	15,957	16,433	17,028	16,843	16,796	16,738	16,713	16,779	16,673	16,292	16,417
XI	16,496	16,262	15,745	15,047	15,100	15,135	15,396	15,957	15,865	15,377	15,726	15,820	15,842	15,789	15,482
XII	15,123	15,339	15,611	16,388	16,312	16,077	15,986	16,425	17,416	17,630	17,053	17,144	17,253	17,360	17,308
SECONDARY SUBTOTAL	67,169	65,193	62,932	63,099	63,283	64,153	64,699	65,148	66,063	65,707	65,498	65,625	65,276	64,976	64,893
TOTAL ENROLMENT	217,408	213,349	210,111	209,874	209,068	208,694	208,612	208,750	209,302	208,723	208,981	208,766	208,525	208,436	208,368

Appendix K (continued)

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Appendix K (continued)

QUESTION .2. - APPENDIX .B.

PERSONNEL PROJECTIONS

xxxxxxx School Division #xx

POSITION	1989-90 FTE	90-91 FTE	91-92 FTE	92-93 FTE	93-94 FTE	94-95 FTE
Regular Classroom	xxx					
Special Education	xxx					
Resource	xxx					
Clinician	xxx					
Department Head	xxx					
Principal - no teaching	xxx					
Principal - some teach	xxx					
Vice-Prin - no teaching	xxx					
Vice-Prin - some teach	xxx					
Superintendent & Ass't	xxx					
Coordinator	xxx					
Consultant	xxx					
Counsellor	xxx					
Director & Ass't	xxx					
Home Tutor	xxx					
Itinerant Teacher	xxx					
Librarian & Ass't	xxx					
Remedial Teacher	xxx					
Supervisor & Ass't	xxx					
Supply Teacher	xxx					
Vocational Education	xxx					
Occupational Entrance	xxx					
Gifted & Talented	xxx					
Special Needs Teacher	xxx					
Lang Dev - Native Educ	xxx					
Combined - Teacher/Spec	xxx					
Combined - Admin/Spec	xxx					
Combined - Teacher/Admin	xxx					
TOTAL	xxxx					

Please note: FTE means Full-Time Equivalent

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Appendix L

Public School Superintendents Survey Results

		Greater Winnipeg		North Manitoba		Rural Manitoba		Total Province	
TOTAL NUMBER OF DIVISIONS/DISTRICTS		8		7		35		50	
		#	%	#	%	#	%	#	%
1. a) Enrolment projections correct -	yes	5	63	6	86	24	73	35	73
	no	3	37	1	14	9	27	13	27
		8	100	7	100	33	100	48	100
b) If no, where and how -	elementary higher	2	67	0	-	3	33	5	38
	elementary lower	1	33	1	100	5	56	7	54
	secondary higher	0	-	0	-	4	44	4	31
	secondary lower	3	100	1	100	5	56	9	69
		3	100	1	100	9	100	13	100
c) Increasing factors -	additional consultation	0	-	1	17	0	-	1	3
	Bill C31	0	-	1	17	0	-	1	3
	mining economy	0	-	1	17	0	-	1	3
	AECL increased funding	0	-	0	-	1	5	1	3
	AECL increased hiring	0	-	0	-	1	5	1	3
	business/tourism devel	1	12	1	17	8	40	10	29
	alt HS attracting stud's	3	38	0	-	2	10	5	15
	gov't decentralization	0	-	0	-	6	30	6	18
	new subdivisions/housing	5	63	0	-	3	15	8	24
	Royal Wpg Ballet studs	1	12	0	-	0	-	1	3
	greater local econ devel	0	-	3	50	3	15	6	18
	closing Indian Band sch	2	25	0	-	0	-	2	6
	new school opening	0	-	1	17	0	-	1	3
	H.S. voc programs	0	-	0	-	1	5	1	3
	immigration	1	12	0	-	1	5	2	6
	Native students	0	-	1	17	0	-	1	3
	SD's accepting new studs	0	-	1	17	2	10	3	9
	prog offerings (eg.FI)	0	-	0	-	1	5	1	3
	improvement in farming	1	12	0	-	3	15	4	12
	new highway	0	-	0	-	1	5	1	3
	new use for Portage Base	0	-	0	-	1	5	1	3
	increasing birth rate	1	12	0	-	1	5	2	6
	family mobility	1	12	0	-	0	-	1	3
	close to Winnipeg	0	-	0	-	2	10	2	6
		8	100	6	100	20	100	34	100
Decreasing factors -	Bill C31	0	-	1	20	0	-	1	3
	forming sep. division	0	-	1	20	0	-	1	3
	local control	0	-	1	20	0	-	1	3
	mining economy	0	-	2	40	0	-	2	5
	aging community	2	33	0	-	2	8	4	11
	rural depopulation	0	-	0	-	14	54	14	38
	families moving away	0	-	1	20	5	19	6	16
	french governance	1	17	0	-	0	-	1	3
	down swing in econ devel	1	17	2	40	9	35	12	32
	HS course preferences	2	33	0	-	3	12	5	14
	lack of employment	0	-	0	-	3	12	3	8
	Fed gov't intervention	0	-	0	-	1	4	1	3
	closure of Portage Base	0	-	0	-	1	4	1	3
	low birth rate	1	17	0	-	3	12	4	11
	decline in rural pop	1	17	0	-	4	15	5	14
	decline in housing start	1	17	0	-	0	-	1	3
	fewer students comp HS	1	17	0	-	0	-	1	3
		6	100	5	100	26	100	37	100
4. Retirements increases - 1990/91 to 1994/95 -	yes	6	75	4	57	25	74	35	71
	no	2	25	3	43	9	26	14	29
		8	100	7	100	34	100	49	100
- 1995/96 to 1999/00 -	yes	7	88	6	100	25	81	38	84
	no	1	12	0	-	6	19	7	16
		8	100	6	100	31	100	45	100

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Appendix L (continued)

	Greater Winnipeg		North Manitoba		Rural Manitoba		Total Province	
TOTAL NUMBER OF DIVISIONS/DISTRICTS	8		7		35		50	
	#	%	#	%	#	%	#	%
If yes, why? - aging staff	6	75	5	83	26	81	37	80
retirements	0	-	0	-	4	13	4	9
early retirments	2	25	1	17	2	6	5	11
	8	100	6	100	32	100	46	100
6. a) 1990/91 # of applicants - yes, all areas	2	25	1	14	8	23	11	22
yes, some	5	63	5	72	24	69	34	68
no	1	12	1	14	3	8	5	10
	8	100	7	100	35	100	50	100
b) 1990/91 good candidates - yes, all areas	1	13	1	14	6	17	8	16
yes, some	7	88	5	72	27	77	39	78
no	0	-	1	14	2	6	3	6
	8	100	7	100	35	100	50	100
c) greatest need Subject Matters								
- language arts - greater	1	14	0	-	2	10	3	10
same	3	43	5	100	14	74	22	71
less	3	43	0	-	3	16	6	19
	7	100	5	100	19	100	31	100
- French Immersion - greater	6	75	3	75	9	60	18	67
same	2	25	1	25	6	40	9	33
less	0	-	0	-	0	-	0	-
	8	100	4	100	15	100	27	100
- Français - greater	4	80	1	100	8	67	13	72
same	1	20	0	-	4	33	5	28
less	0	-	0	-	0	-	0	-
	5	100	1	100	12	100	18	100
- Core French - greater	4	67	4	80	11	46	19	54
same	2	33	1	20	13	54	16	46
less	0	0	0	-	0	-	0	-
	6	100	5	100	24	100	35	100
- Heritage Languages - greater	1	20	1	100	3	27	5	29
same	2	40	0	-	8	73	10	59
less	2	40	0	-	0	-	2	12
	5	100	1	100	11	100	17	100
- Mathematics - greater	0	-	3	60	3	14	6	19
same	4	80	2	40	18	86	24	78
less	1	20	0	-	0	-	1	3
	5	100	5	100	21	100	31	100
- Sciences - greater	1	20	3	75	7	30	11	34
same	3	60	1	25	16	70	20	63
less	1	20	0	-	0	-	1	3
	5	100	4	100	23	100	32	100
- Vocational - greater	0	-	3	60	8	42	11	38
same	4	80	1	20	11	58	16	55
less	1	20	1	20	0	0	2	7
	5	100	5	100	19	100	29	100
- Art - greater	1	17	0	-	4	25	5	20
same	4	66	2	67	11	69	17	68
less	1	17	1	33	1	6	3	12
	6	100	3	100	16	100	25	100
- Music - greater	4	66	4	100	14	67	22	71
same	1	17	0	-	7	33	8	26
less	1	17	0	-	0	-	1	3
	6	100	4	100	21	100	31	100

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Appendix L (continued)

	Greater Winnipeg		North Manitoba		Rural Manitoba		Total Province	
TOTAL NUMBER OF DIVISIONS/DISTRICTS	8		7		35		50	
	#	%	#	%	#	%	#	%
- Other - greater	0	-	2	100	2	50	4	67
same	0	-	0	-	2	50	2	33
less	0	-	0	-	0	-	0	-
	0	-	2	100	4	100	6	100
Skills								
- Educ.Tech/Dist.Ed - greater	0	-	0	-	4	27	4	21
same	2	100	2	100	11	73	15	79
less	0	-	0	-	0	-	0	-
	2	100	2	100	15	100	19	100
- North/Rural work - greater	-	-	3	60	4	44	7	50
same	-	-	2	40	5	56	7	50
less	-	-	0	-	0	-	0	-
	-	-	5	100	9	100	14	100
- Multi-graded - greater	1	33	0	-	15	71	16	59
same	2	67	2	100	6	29	11	41
less	0	-	0	-	0	-	0	-
	3	100	2	100	21	100	27	100
- Cross-cultural - greater	1	50	2	67	7	64	10	63
same	1	50	1	33	4	36	6	37
less	0	-	0	-	0	-	0	-
	2	100	3	100	11	100	16	100
- Other - greater	-	-	-	-	0	-	0	-
same	-	-	-	-	1	100	1	100
less	-	-	-	-	0	-	0	-
	-	-	-	-	1	100	1	100
Capacities								
- Administrators - greater	1	20	2	67	11	50	14	47
same	4	80	1	33	11	50	16	53
less	0	-	0	-	0	-	0	-
	5	100	3	100	22	100	30	100
- Counselling - greater	1	20	1	50	13	62	15	54
same	4	80	1	50	8	38	13	46
less	0	-	0	-	0	-	0	-
	5	100	2	100	21	100	28	100
- Special Needs - greater	4	67	4	80	16	70	24	71
same	2	33	1	20	7	30	10	29
less	0	-	0	-	0	-	0	-
	6	100	5	100	23	100	34	100
- Resource teaching - greater	4	67	5	83	24	80	33	79
same	2	33	1	17	6	20	9	21
less	0	-	0	-	0	-	0	-
	6	100	6	100	30	100	42	100
- Specialists - greater	0	-	2	67	12	75	14	61
same	4	100	1	33	4	25	9	39
less	0	-	0	-	0	-	0	-
	4	100	3	100	16	100	23	100
- Other - greater	1	100	-	-	0	-	1	50
same	0	-	-	-	1	100	1	50
less	0	-	-	-	0	-	0	-
	1	100	-	-	1	100	2	100
Levels								
- Early years K-4 - greater	1	20	1	25	3	16	5	18
same	2	40	3	75	14	74	19	68
less	2	40	0	-	2	10	4	14
	5	100	4	100	19	100	28	100

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Appendix L (continued)

	Greater Winnipeg		North Manitoba		Rural Manitoba		Total Province	
TOTAL NUMBER OF DIVISIONS/DISTRICTS	8		7		35		50	
	#	%	#	%	#	%	#	%
- Middle years 5-8 - greater	2	40	1	25	5	26	8	29
same	3	60	3	75	14	74	20	71
less	0	-	0	-	0	-	0	-
	5	100	4	100	19	100	28	100
- Senior years 9-12 - greater	1	20	3	60	10	43	14	42
same	4	80	2	40	13	57	19	58
less	0	-	0	-	0	-	0	-
	5	100	5	100	23	100	33	100
d) One of five areas of greatest need:								
Subject Matters:								
a. Language Arts	0	-	0	-	3	9	3	6
b. French Immersion	8	100	3	43	9	27	20	42
c. Français	4	50	0	-	4	12	8	17
d. Core French	1	13	5	71	16	48	22	46
e. Heritage Languages	0	-	1	14	1	3	2	4
f. Mathematics	0	-	1	14	3	9	4	8
g. Sciences	1	13	1	14	6	18	8	17
h. Vocational	2	25	2	29	4	12	8	17
i. Art	0	-	1	14	0	-	1	2
j. Music	4	50	1	14	10	30	15	31
k. Other	0	-	2	29	5	15	7	15
Skills:								
l. Educ.Tech/Dist.Ed.	0	-	0	-	0	-	0	-
m. North/Rural Settings	0	-	2	29	0	-	2	4
n. Multi-graded teaching	0	-	0	-	1	3	1	2
o. Cross-cultural setting	0	-	0	-	0	-	0	-
p. Other	0	-	0	-	0	-	0	-
Capacities:								
q. Administrators	0	-	1	14	7	21	8	17
r. Counselling	0	-	0	-	4	12	4	8
s. Special Needs	3	38	2	29	9	27	14	29
t. Resource teaching	5	63	4	57	18	55	27	56
u. Specialists	1	13	1	14	6	18	8	17
v. Other	0	-	0	-	0	-	0	-
Levels:								
w. Early years K-4	0	-	0	-	1	3	1	2
x. Middle years 5-8	0	-	1	14	2	6	3	6
y. Senior years 9-12	0	-	1	-	1	3	2	4
	8	100	7	100	33	100	48	100
7. a) Need to recruit more o-o-p? - yes	4	50	5	71	12	36	21	44
no	4	50	2	29	21	64	27	56
	8	100	7	100	33	100	48	100
If yes, why? - not wishing to go North	0	-	1	20	0	-	1	5
shortage of French teachers	2	50	2	40	7	58	11	52
shortage of specialists	0	-	1	20	2	17	3	14
lack of candidates in Man.	1	25	1	20	2	17	4	19
shortage of teachers	1	25	0	-	0	-	1	5
location	0	-	0	-	1	8	1	5
	4	100	5	100	12	100	21	100
b) Foresee increase in o-o-p need - yes	3	50	6	86	22	69	31	69
no	3	50	1	14	10	31	14	31
	6	100	7	100	32	100	45	100
If yes, why - not wishing to go North	0	-	1	16	0	-	1	4
to find approp specialists	0	-	1	17	3	16	4	15
need for specialists	0	-	1	17	4	21	5	18
attraction to large centers	0	-	0	-	1	5	1	4
not sure	0	-	1	17	0	-	1	4
shortage of French teachers	2	100	2	33	6	32	10	37
not enough applicants	0	-	0	-	5	26	5	18
	2	100	6	100	19	100	27	100

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Appendix L (continued)

	Greater Winnipeg		North Manitoba		Rural Manitoba		Total Province	
TOTAL NUMBER OF DIVISIONS/DISTRICTS	8		7		35		50	
	#	%	#	%	#	%	#	%
If no, why not - have many applications	1	33	-	-	3	38	4	37
adequate staff	0	-	-	-	1	12	1	9
reputation of Division	1	33	-	-	0	-	1	9
Division close to Wpg	0	-	-	-	3	38	3	27
graduating own Fr. teachers	1	33	-	-	0	-	1	9
don't need more spec's	0	-	-	-	1	12	1	9
	3	100	-	-	8	100	11	100
8. Recruitment costing more time - yes	6	75	4	67	24	71	34	71
no	2	25	2	33	10	29	14	29
	8	100	6	100	34	100	48	100
Recruitment costing more money - yes	4	50	5	83	25	78	34	74
no	4	50	1	17	7	22	12	26
	8	100	6	100	32	100	46	100
If yes, primary reasons - more ads across Can	3	50	4	80	11	44	18	50
more travel	1	17	5	100	3	12	9	25
pay cand's for inter	1	17	1	20	0	-	2	6
vacancies occuring	0	-	0	-	1	4	1	3
takes longer to fill	2	33	1	20	9	36	12	33
interview time	0	-	0	-	3	12	3	8
more openings	1	17	0	-	3	12	4	11
need to recruite early	1	17	0	-	0	-	1	3
need particular teach	3	50	0	-	3	12	6	17
lack of applicants	0	-	0	-	1	4	1	3
national recruitment	0	-	1	20	3	12	4	11
	6	100	5	100	25	100	36	100
9. Other recruitment methods and success:								
Canada Manpower - not successful	-	-	0	-	2	67	2	50
successful	-	-	0	-	1	33	1	25
very successful	-	-	1	100	0	-	1	25
don't know	-	-	0	-	0	-	0	-
	-	-	1	14	3	9	4	8
Out-of-prov ads - not successful	0	-	0	-	1	50	1	17
successful	0	-	3	100	0	-	3	50
very successful	1	100	0	-	1	50	2	33
don't know	0	-	0	-	0	-	0	-
	1	12	3	43	2	6	6	12
Stud.Teacher contact - not succ	-	-	0	-	1	17	1	10
successful	-	-	3	75	3	50	6	60
very successful	-	-	1	25	2	33	3	30
don't know	-	-	0	-	0	-	0	-
	-	-	4	57	6	17	10	20
Help from staff - not successful	-	-	0	-	-	-	0	-
successful	-	-	1	100	-	-	1	100
very successful	-	-	0	-	-	-	0	-
don't know	-	-	0	-	-	-	0	-
	-	-	1	14	-	-	1	2
O-O-Prov Travel - not successful	0	-	0	-	-	-	0	-
successful	1	100	1	50	-	-	2	67
very successful	0	-	1	50	-	-	1	33
don't know	0	-	0	-	-	-	0	-
	1	12	2	29	-	-	3	6
University ads - not successful	0	-	-	-	1	20	1	12
successful	1	33	-	-	2	40	3	38
very successful	2	67	-	-	2	40	4	50
don't know	0	-	-	-	0	-	0	-
	3	38	-	-	5	14	8	16

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Appendix L (continued)

	Greater Winnipeg		North Manitoba		Rural Manitoba		Total Province	
TOTAL NUMBER OF DIVISIONS/DISTRICTS	8		7		35		50	
	#	%	#	%	#	%	#	%
Contact other sup's - not success	-	-	-	-	0	-	0	-
successful	-	-	-	-	2	40	2	40
very successful	-	-	-	-	1	20	1	20
don't know	-	-	-	-	2	40	2	40
	-	-	-	-	5	14	5	10
Placing media ads - not success	-	-	0	-	0	-	0	-
successful	-	-	1	100	2	40	3	50
very successful	-	-	0	-	1	20	1	17
don't know	-	-	0	-	2	40	2	33
	-	-	1	14	5	14	6	12
Word of Mouth - not successful	0	-	-	-	0	-	0	-
successful	0	-	-	-	3	50	3	42
very successful	1	100	-	-	1	17	2	29
don't know	0	-	-	-	2	33	2	29
	1	12	-	-	6	17	7	14
Recruitment trips- not successful	-	-	1	50	2	100	3	75
successful	-	-	1	50	0	-	1	25
very successful	-	-	0	-	0	-	0	-
don't know	-	-	0	-	0	-	0	-
	-	-	2	29	2	6	4	8
Personal Contacts - not successful	0	-	-	-	0	-	0	-
successful	0	-	-	-	1	100	1	33
very successful	2	100	-	-	0	-	2	67
don't know	0	-	-	-	0	-	0	-
	2	25	-	-	1	3	3	6
Open house - not successful	0	-	-	-	-	-	0	-
successful	0	-	-	-	-	-	0	-
very successful	1	100	-	-	-	-	1	100
don't know	0	-	-	-	-	-	0	-
	1	12	-	-	-	-	1	2
CBC National Job Bank - not succ	-	-	0	-	-	-	0	-
successful	-	-	1	100	-	-	1	100
very successful	-	-	0	-	-	-	0	-
don't know	-	-	0	-	-	-	0	-
	-	-	1	14	-	-	1	2
Consulting firm - not successful	-	-	0	-	-	-	0	-
successful	-	-	0	-	-	-	0	-
very successful	-	-	1	100	-	-	1	100
don't know	-	-	0	-	-	-	0	-
	-	-	1	14	-	-	1	2
Professional Journals - not succ	-	-	-	-	0	-	0	-
successful	-	-	-	-	0	-	0	-
very successful	-	-	-	-	0	-	0	-
don't know	-	-	-	-	1	100	1	100
	-	-	-	-	1	3	1	2
Ass't from BEF - not successful	-	-	-	-	0	-	0	-
successful	-	-	-	-	0	-	0	-
very successful	-	-	-	-	1	100	1	100
don't know	-	-	-	-	0	-	0	-
	-	-	-	-	1	3	1	2
Accept ads yearround - not succ	-	-	-	-	0	-	0	-
successful	-	-	-	-	0	-	0	-
very successful	-	-	-	-	1	100	1	100
don't know	-	-	-	-	0	-	0	-
	-	-	-	-	1	3	1	2

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Appendix L (continued)

	Greater Winnipeg		North Manitoba		Rural Manitoba		Total Province	
TOTAL NUMBER OF DIVISIONS/DISTRICTS	8		7		35		50	
	#	%	#	%	#	%	#	%
Video of city - not successful	0	-	0	-	-	-	0	-
successful	0	-	0	-	-	-	0	-
very successful	0	-	0	-	-	-	0	-
don't know	1	100	1	100	-	-	2	100
	1	12	1	14	-	-	2	4
10. Experiencing shortage now? - yes	1	12	3	43	12	34	16	32
no	7	88	4	57	23	66	34	68
	8	100	7	100	35	100	50	100
If yes, how dealing with it beyond recruiting?								
advertise out of province	0	-	2	67	1	8	3	19
forfeit grants	0	-	1	33	2	17	3	19
examine diff. recruit. strategies	0	-	2	67	2	17	4	25
only in certain areas	0	-	1	33	2	17	3	19
letter of authority	0	-	1	33	1	8	2	13
go without specialists	0	-	1	33	0	-	1	6
contact agency to hire	0	-	1	33	0	-	1	6
itinerant teachers	0	-	0	-	1	8	1	6
distance educ	0	-	0	-	2	17	2	13
combine classes	0	-	0	-	3	25	3	19
cut programs	1	100	0	-	2	17	3	19
hire less qualified teachers	0	-	0	-	2	17	2	13
combine teacher responsibilities	0	-	0	-	1	8	1	6
	1	100	3	100	12	100	16	100

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Appendix M

Teacher Supply and Demand Project
Superintendents' Comments

What provincial strategies could the Department of Education and Training adopt to better address Division/Province Teacher Supply and Demand needs?

Greater Winnipeg

- Ensure that certification requirements and procedures are consistent with other provinces.
- Keep certification offices in Winnipeg to ensure quick and efficient access for all teachers.
- Greater emphasis on French Immersion teachers especially at the secondary level.
- Increase the number of French Immersion graduates.
- Attract more students into teaching via bursaries for specialty areas.
- Give BEF a greater role in recruitment outside the province.
- Attention to supply of French Immersion teachers, especially specialists, eg. resource, counselling, sciences.
- Financial support for training of teachers in Francais, Immersion programs, Basic French teaching: scholarships, loans, suspend fees for French courses, offer no-cost courses in the teaching of French (and Conversational French) in divisions, after school or evenings.
- Provide more incentives (grants, etc) to encourage Manitoba teachers to become competent in all French programs and subjects.
- Provide incentive grants (tax free) for Manitoba teachers to teach in rural and northern Manitoba for a period of from 2-3 years (this was done in the 60s with success. I was part of the program at that time).
- Introduce an internship program so that Divisions could employ more new graduates at reduced initial cost -- especially in rural and northern areas and specialty areas.
- Many of these suggestions reflect extra spending. I suggest we will spend the extra dollars in out-of-province recruiting/increased teacher turnovers/loss of individuals to teaching (loss of continuity of instruction to students - anyway). Let's spend wisely and well.
- Attract more high quality to the respective education faculties by lowering fees.

Rural Manitoba

- For resource teachers, we could use additional qualification grants which would compensate for addition training.
- Teachers receiving a Special Education Certificate in another province should be considered for Special Education certification in Manitoba. In my opinion teachers who have completed the Special Education program at Acadia University in Nova Scotia are as qualified and in some cases, more qualified to work as Resource teachers in Manitoba as those who receive a Special Education Certificate in Manitoba.
- Concerted effort to improve status of teaching profession.
- Increase possibility of portability of out-of-province qualifications.
- Introduce emergency training programs in conjunction with apprenticeship opportunities.
- Review course content with possibility of trainees doing final year in school system in "apprenticeship capacity".
- Begin to perceive needs in advance of demand. This questionnaire is a good start.
- Our training schools should advertise well in advance what teaching areas are in demand.
- We have approximately 350-600 applications every year for grade 1-6 teachers, many of which would have trained for some other area had they known where shortages existed.
- Create a central recruitment office (eg, Manpower at the Federal level).
- Publicize teaching ... its benefits and the rewards of working with students.
- Manitoba Education and Training should encourage students to go into teacher training through a publicity campaign and through a system of bursaries.
- Develop a central jobs data bank accessible to all teachers, student teachers, school divisions -- possibly through MINet.
- Departmentally sponsored incentives for remote and rural locations -- eg, COLA, relocation bonus, etc.
- Incentives to locate in smaller, rural communities.
- Competitive salaries/benefits in relation to other provinces.
- Earlier resignation deadlines; ie, April 30th to allow campus recruiting as other provinces seem to do.
- Try to get more money made available for summer bursaries for retraining of teachers.
- Press Faculty of Education to stress the importance of French to faculty students.

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FIGURES

Rural Manitoba (Appendix M continued)

- Stress the importance of student teachers having solid training and course content in teachable electives.
- Advise the public, high school students and all university students about areas of anticipated need.
- Develop distance education programs to serve any area experiencing staff shortages.
- Provide news media with "releases" that would encourage high school students to enter Faculty of Ed.
- Target principals and counsellors to receive regular updates on strategies to encourage high school students to enter the Faculty of Education.
- Provide grants to divisions (rural and remote) that would be used to assist new teachers to pay off student loans.
- Keep in better contact with school divisions re surveys similar to this one.
- Have occasional sharing sessions similar to the one conducted by your university in the spring term of 1989.
- Develop brochures for guidance and career counsellors to entice students to look at a career in education.
- Sell our province and education system to other universities in other provinces.
- Infusion of monies allowing student-teachers to spend more time in rural divisions.
- Working with universities and providing funds for student-teachers to spend a full year in a school -based practicum.
- Provide bursaries for students who would teach in rural areas for 2-3 years.
- Allow permit teachers to receive credit for their experiences as was the case in the '60s (1960-1969).
- An internship for one year to take the place of the present student teaching program. (This would have to be a paid position on a salary below that of a beginning teacher.)
- A paid tuition (university) for teachers willing to spend the first two or three years in rural or northern Manitoba.
- Limit the number of out-of-province University registrants and charge them more.
- More training of teachers in specialized areas, ie, resource, music, etc.
- A better principalship program.
- Survey school divisions more frequently to determine the trends in specific needs as pertain to staffing.
- Develop a re-training program for teachers who wish to come back into teaching after having been out of the field for an extended period. In many cases these people are very keen and anxious to teach again but they lack the knowledge and awareness as pertains to the curricula, etc. A compulsory "refresher" course(s) would offer some opportunities for potential recruits.
- Part of shortage is due to factors/perceptions not related to teaching. We have many applications because we are seen as a good place to live. Other towns farther from Winnipeg have as good as or better schools and working conditions as ours, but teachers don't want to work/live there. Some of it has to do with house resale conditions and that sort of thing. Strategies will need to do with rural conditions generally to an extent and not just with teacher supply.
- Require new trainees or graduates of Manitoba to be required to stay in Manitoba for at least 2 years. Otherwise pay at least 50% of the cost of university education.
- Broaden teacher certification regulations.
- Increase grants to teacher education institutes.
- Provide monies in grants for recruiting strategies for the rural divisions who require incentives to attract teachers.
- For areas of specialty such as French, the Dept. could be used as a clearing house, where teachers living outside of Manitoba could submit their names, indicating their interest for teaching that specialty subject, and perhaps checking out some of the references and qualifications.
- School divisions, as the need arises, contacts the Dept. for names, references, qualifications, recommendations, etc. This would certainly speed up the process.
- Have a team of provincial people from BEF go to interview graduating teacher trainees in Quebec; list people willing to leave Quebec for work in other provinces and list their subject specialties and other relevant data, including fluency in French, in English; rating their potential as a teacher. This would mean that the province would at least have to post ads in the Quebec teacher training institutions; go out and interview applicants for prescreening purposes. (The interview committee would not hire.) The listings of their results would be sent to school divisions with French language programs. FSL teachers would need to be identified as that as well as French Immersion teachers and Française teachers.
- Department should check supply before it issues qualification requirements; ie, special needs teachers.
- Financial incentives for teachers who take their training in Manitoba and then teach in Manitoba.
- Anticipate and plan more adequately for teacher surpluses and shortages. Insist that faculties increase and/or decrease enrolments in B.Ed. programs prior to a surplus or shortage situation.
- Give entrance preference to Manitoba students.
- Bursary programs for specialist areas (teacher training).
- Assistance in recruiting national and international candidates.
- A central clearing ... computerized matching of positions with interested teachers. California uses this approach and apparently with good success.
- Restrict out-of-province candidates to education programs.
- Increase incentives ... ie, bursaries.

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Rural Manitoba (Appendix M continued)

- Universities must begin to counsel and prepare for teachable areas in senior years.
- Department and universities should consider middle grades emphasis in training - University preparation is more considerate and appropriate to school needs in early years -- emphasis on French, music, computer awareness and special ed training is often present in candidates. We need to discuss and liaise more at Senior areas and Universities must be prepared to adapt instead of avoid real school needs for senior level preparation in school teachables. (Why is it that Brandon University secondary grads all graduate with major/minors in either Phys.Ed, Biology and Geography... note: A Bachelor Science major in geography is useful for only 1 high school course.
- Attempt to anticipate needs and educate future graduates.
- Have a list of department personnel at universities who will assist in recruitment.
- Assist teachers travelling for interviews.
- Department clearing house for potential specialist jobs and candidates.
- Limit the number of students attending from out of province at our provincial faculties of education.
- Increase French Immersion training volume.
- Training from creativity/problem solving point of view rather than industrial journeyman concepts.
- Provide on-going training in: multi-grade instruction
  integrated special needs in teaching skills
  computer assisted learning in the classroom
  counselling courses for regular class teachers.
- Upgrade university education courses to provide areas of specialization or concentration; eg, English, Science, etc. for High School teachers.
- Encourage more teachers to train for special education, resource and resource co-ordinators perhaps by offering more renumeration.
- Supply living accommodations at reasonable rents in rural and remote areas to make teaching more attractive in these regions.
- Provide an allowance for teachers in remote or isolated areas to help alleviate the high cost of living in these districts.

Northern Manitoba

- Put pressure on Canada Employment and Immigration to reduce the red tape and hassle when hiring foreign workers from USA or elsewhere. They obviously have not got the message that a teacher shortage is here. It seems that it is easier for Canadians to go to USA to teach than vice-versa.
- Have agreements with all provinces. We lost excellent candidates from Prince Edward Island.
- More guidance for education students to steer them into math/science and other areas of need, rather than geography/history, etc.
- Increase rural and northern field experience placements.
- Increase student teachers in the division.
- Encouragement for students to teach in north; more understanding/awareness of teaching in north.
- Support universities in increasing number of students admitted to faculties of education, especially in areas of need.
- Limit number of out-of-province admissions to faculties of education.
- Provide incentives for good quality candidates to enter Faculties of Education.
- Provide incentives for new grads to go to rural and northern areas.
- Incentives to encourage teachers to move out of Winnipeg and Brandon and relocate in northern and rural Manitoba: ie. - subsidies for wages, accommodation, cost of living, etc. Would have to be substantially higher to attract people. The 25-30% cost of living difference for northern Manitoba over South ... This would have to be addressed.
- Expand training of specialists, ie, vocational, music, french, resource.
- Target certain areas for priority training (eg, clinicians, French, resource teaching), and make this known to provincial universities.
- Offer bursaries for attendance at universities who are providing required training (eg, resource program).
- Establish with a Manitoba university a speech pathology program. (There are few in the country).
- Retain an employee to provide to school divisions/districts an inventory of graduates for the next school year (eg, release the inventory in January so that divisions/districts can begin recruiting). It is realized that all universities in the country could not be listed.
- Make further reciprocal agreements with other provinces regarding training requirements (eg, the two year education requirement after an academic degree makes it difficult to attract teachers from some provinces as they are classified lower).
- Maintain a listing of unemployed qualifies teachers. Such a list should include special qualifications, specialist subjects, etc.
- Maintain a listing of divisions/districts requiring qualified teachers. Make this list available upon request.
- Encourage Faculties of Education and school divisions/districts to pursue the concept of teacher apprentices.

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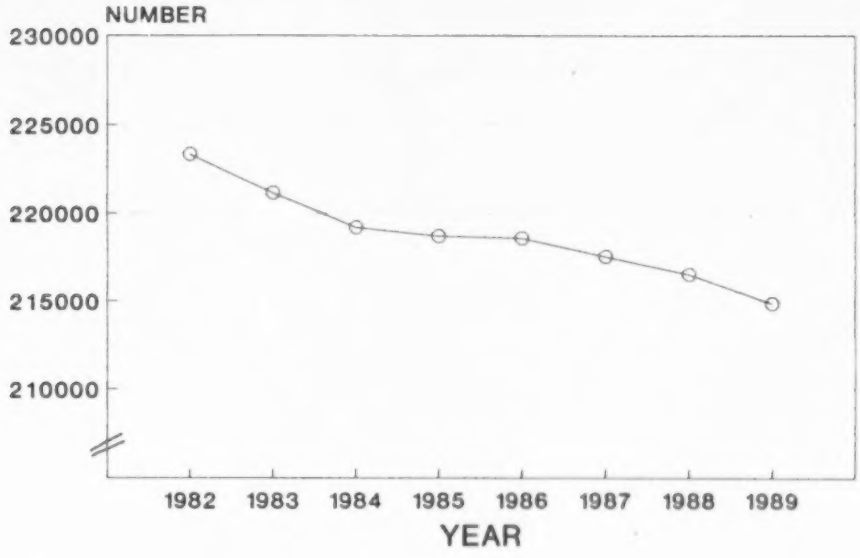
Figure 1.

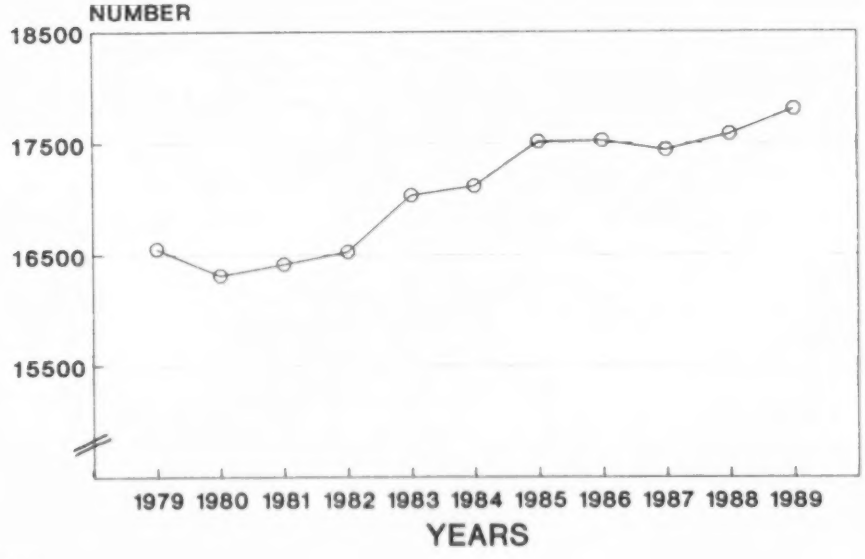
MANITOBA POPULATION AGED 5-17
(1982-1989)



Source:
Manitoba Health Services Commission

Figure 2.

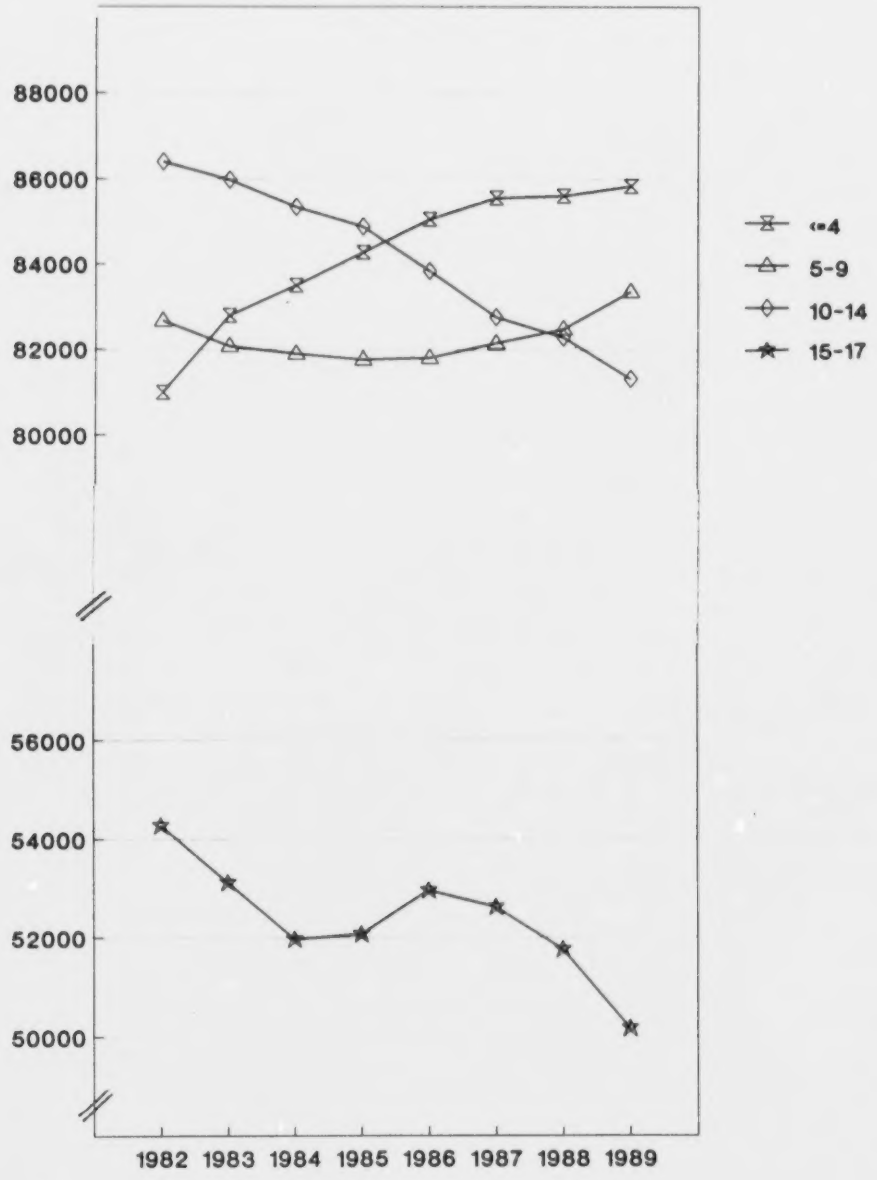
MANITOBA BIRTHS
(1979-1989)



Source:
Manitoba Vital Statistics

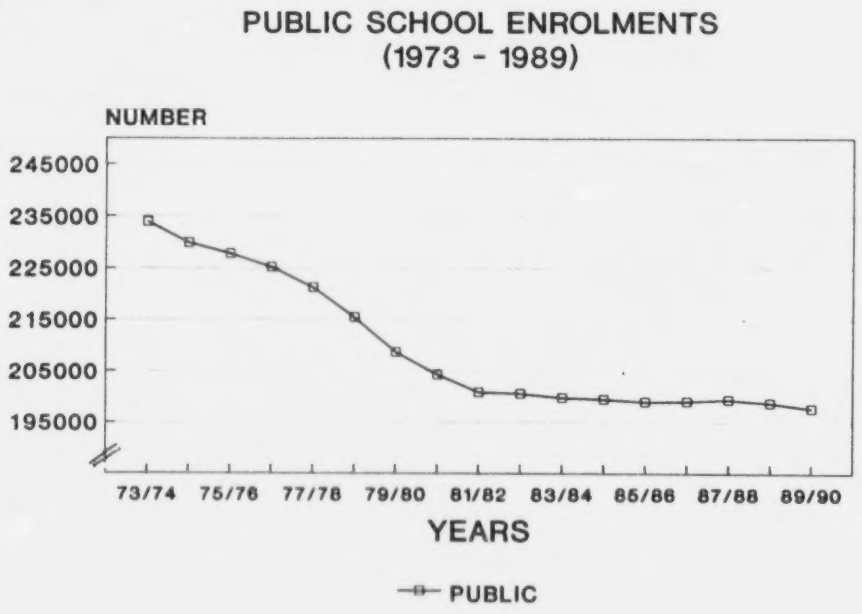
Figure 3.

MANITOBA POPULATION BY AGE GROUPS
(1982 - 1989)



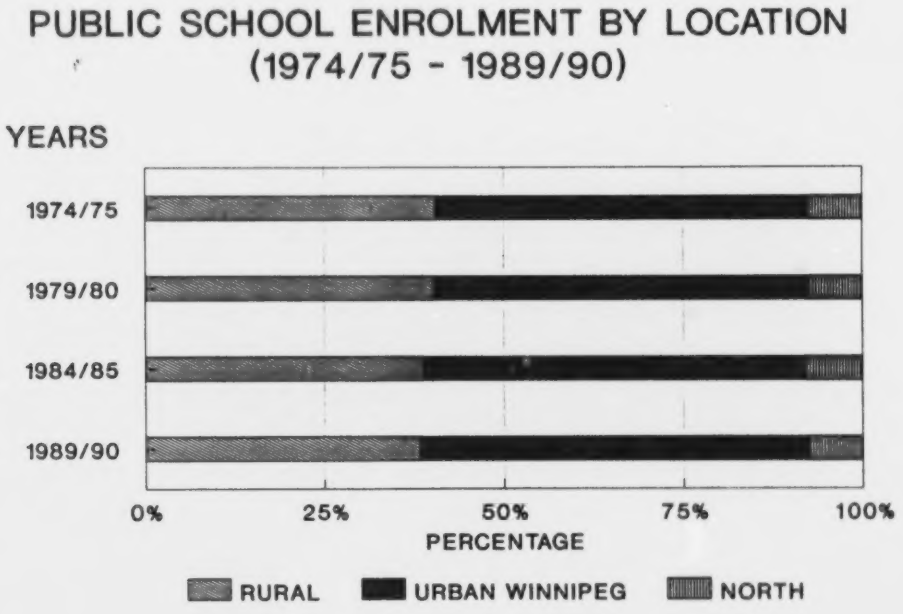
Source:
Manitoba Health Services Commission

Figure 4.



Source:
Manitoba Education and Training.
Enrolment and Transported Pupils Report

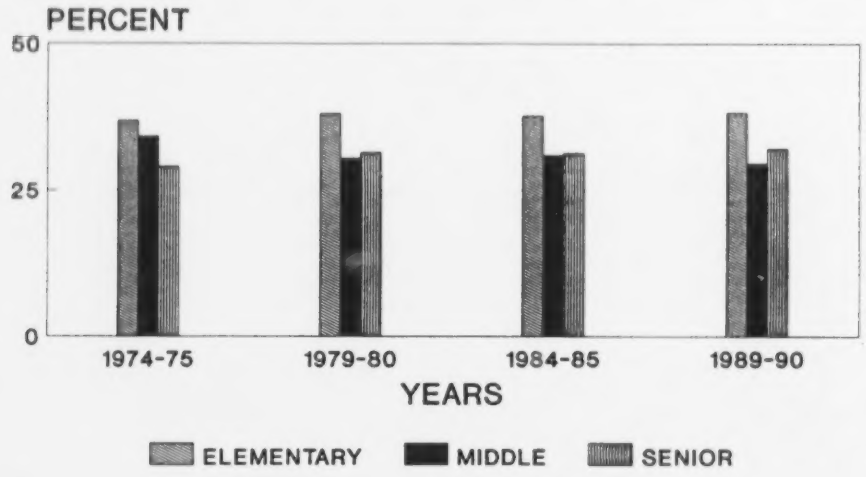
Figure 5.



Source:
Manitoba Education and Training
Enrolment and Transported Pupils Report

Figure 6.

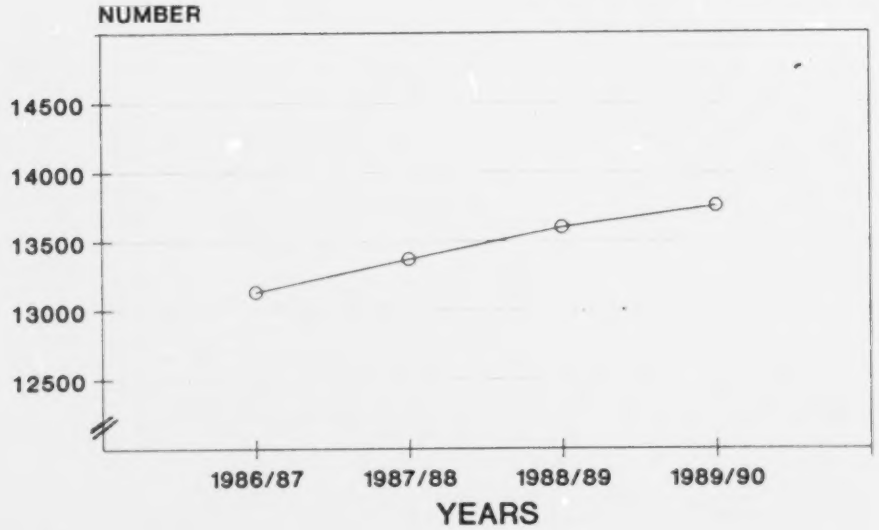
PUBLIC SCHOOL ENROLMENT BY EDUCATIONAL CATEGORY (1974/75 - 1989/90)



Source:
Manitoba Education and Training
Enrolment and Transported Pupils Reports

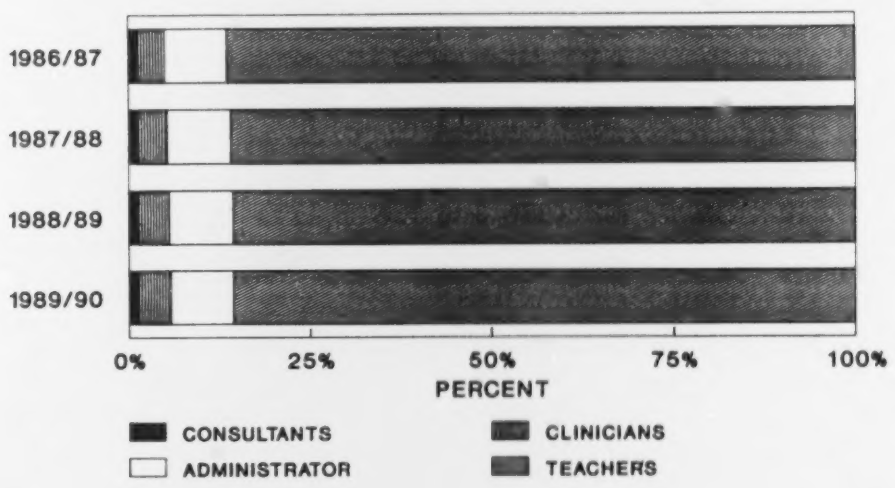
Figure 7.

PUBLIC SCHOOL TEACHERS (1986/87 TO 1989/90)



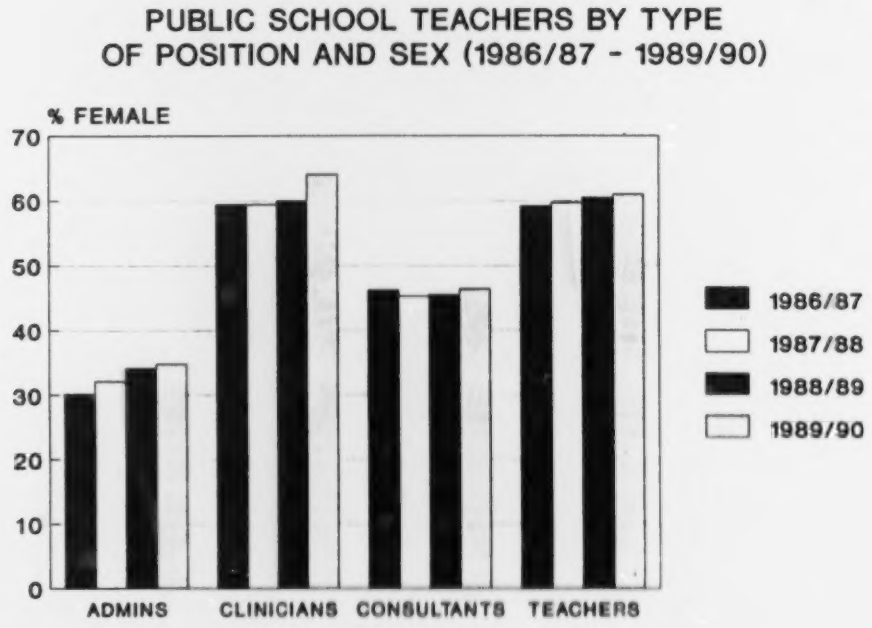
Source:
Manitoba Education and Training.
Professional School Personnel (PSP) File

Figure 8.



Source:
Manitoba Education and Training.
Professional School Personnel (PSP) File

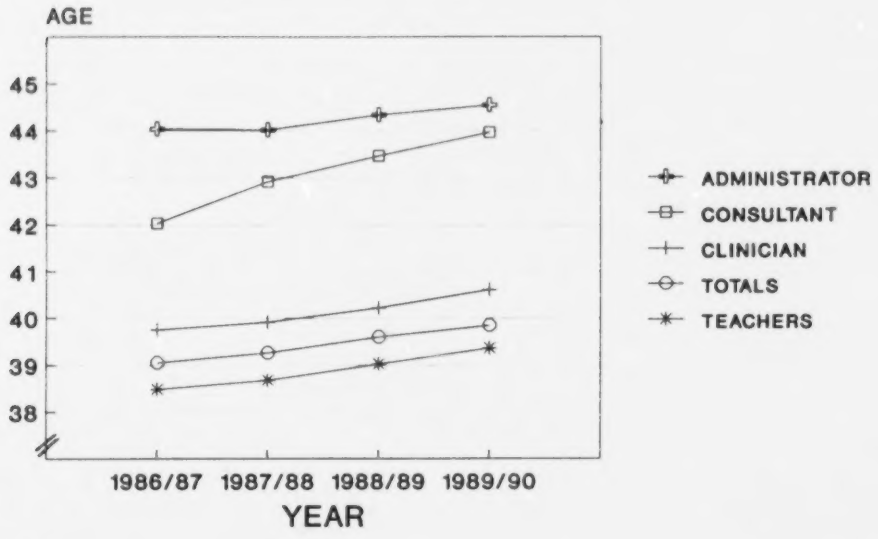
Figure 9.



Source:
Manitoba Education and Training.
Professional School Personnel (PSP) File

Figure 10.

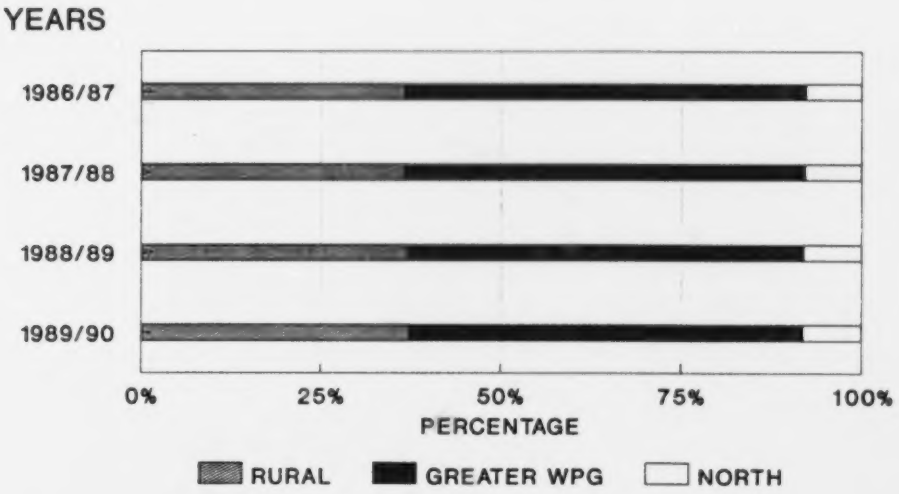
AVERAGE TEACHER AGE BY CATEGORY
(1986/87 TO 1989/90)



Source:
Manitoba Education and Training.
Professional School Personnel (PSP) File

Figure 11.

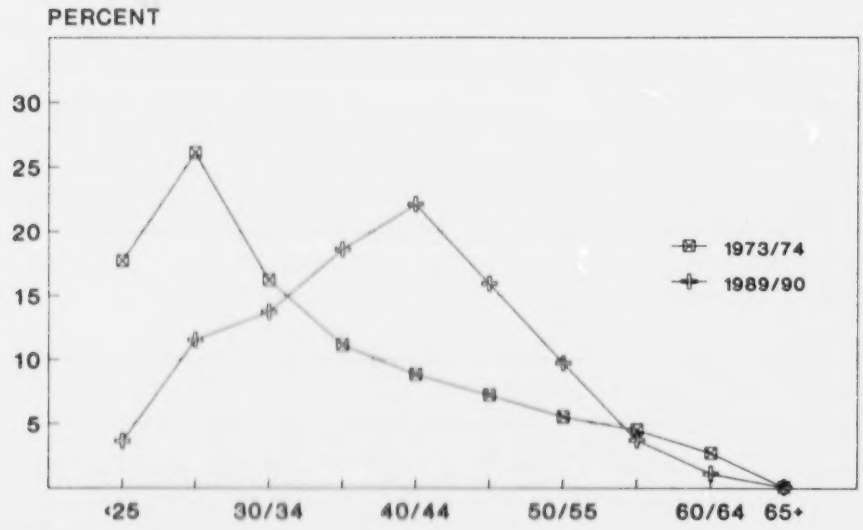
PUBLIC SCHOOL TEACHERS BY LOCATION
(1986/87 TO 1989/90)



Source:
Manitoba Education and Training.
Professional School Personnel (PSP) File

Figure 12.

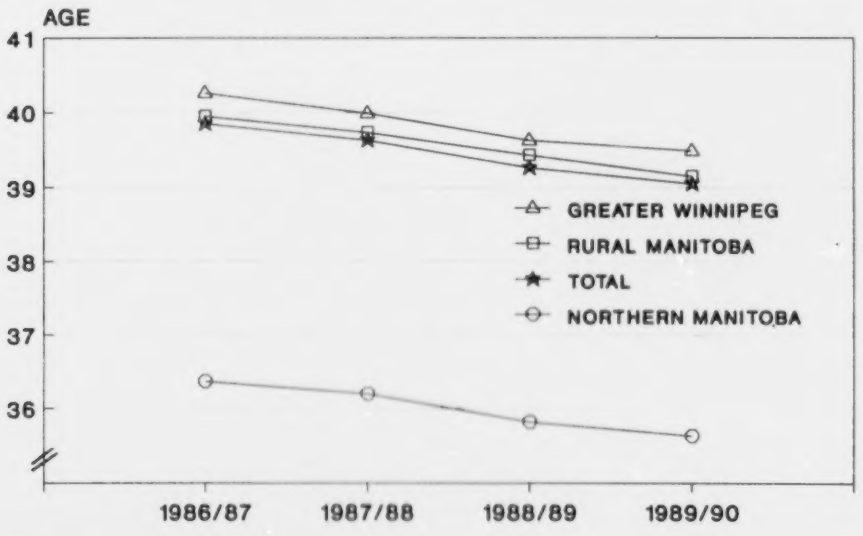
PUBLIC SCHOOL TEACHERS AGE DISTRIBUTION
(1973-74 and 1989-90)



Source:
Manitoba Education and Training
Professional School Personnel (PSP) File

Figure 13.

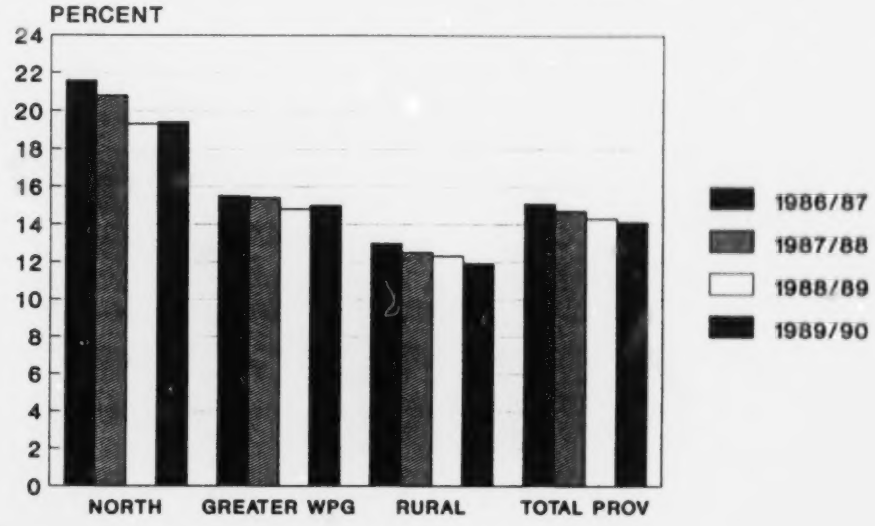
AVERAGE AGE OF PUBLIC SCHOOL TEACHERS
BY LOCATION (1986/87 TO 1989/90)



Source:
Manitoba Education and Training
Professional School Personnel (PSP) File

Figure 14.

PROPORTION OF TEACHERS WITH OUT-OF-PROVINCE EXPERIENCE (1986/87 TO 1989/90)



Source:
Manitoba Education and Training.
Professional School Personnel (PSP) File

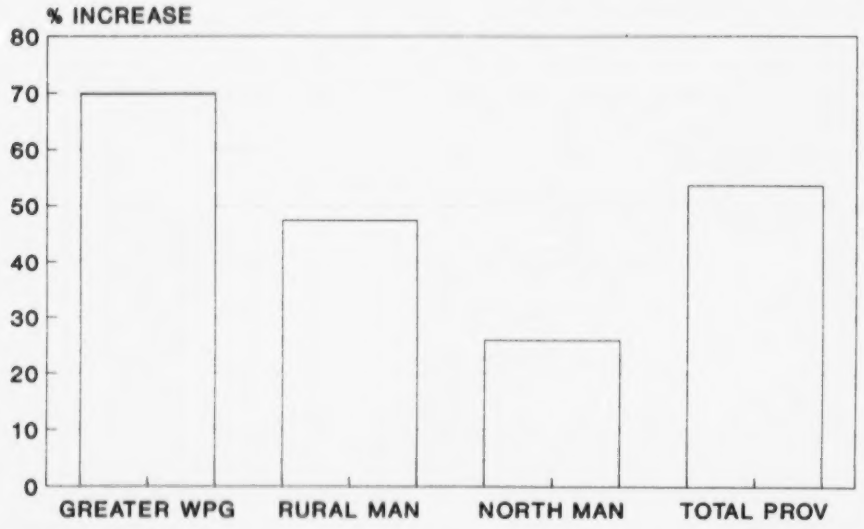
Figure 15.

TEACHER RETIREMENTS
(1981 - 1989)

Source:
Manitoba Teachers' Retirement Allowances
Fund Board

Figure 16.

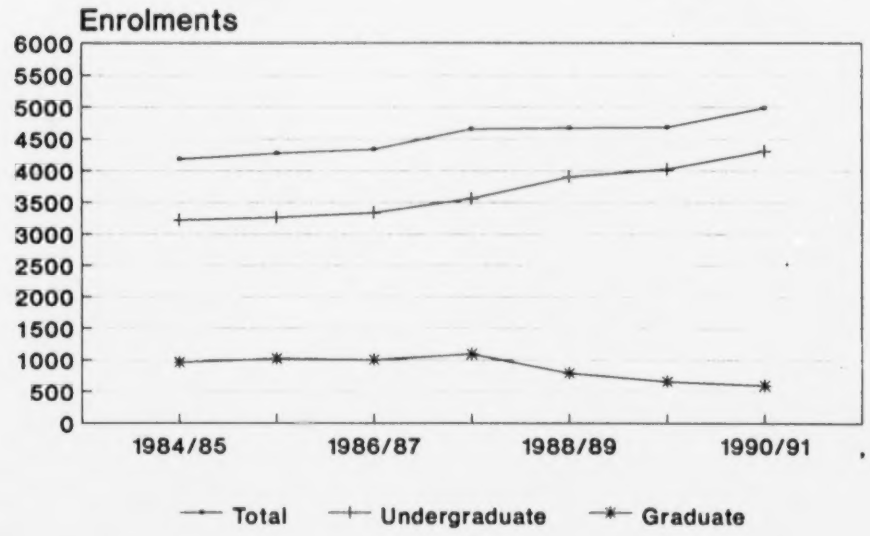
PUBLIC SCHOOL FTE TEACHER AIDES
(PERCENT INCREASE 1986/87 TO 1989/90)



Source:
Manitoba Education and Training.
Schools Finance Branch

Figure 17

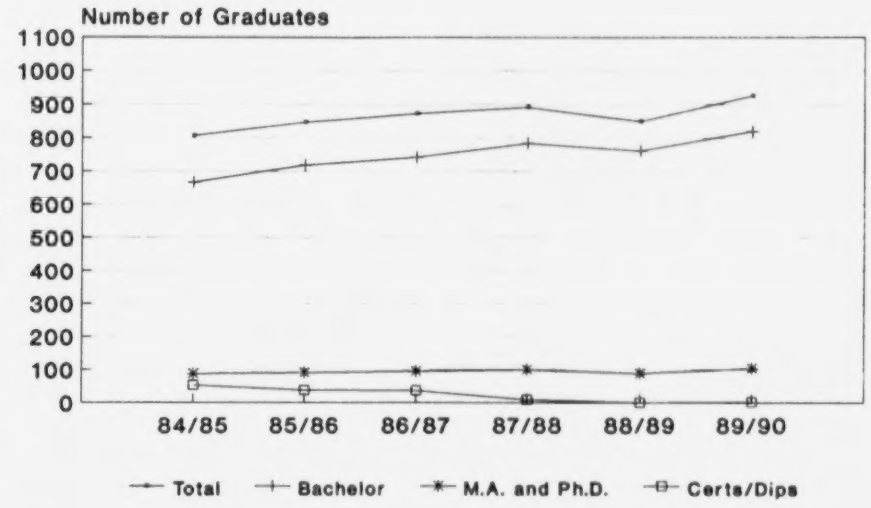
MANITOBA FACULTIES OF EDUCATION
ENROLMENTS (1984/85 TO 1990/91)



Source:
Manitoba Universities Grants Commission

Figure 18.

MANITOBA EDUCATION GRADUATES
(1984/85 TO 1989/90)



Source:
Manitoba Universities Grants Commission
Annual Report

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